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SHIPPING **MANAGEMENT**



AN INDEPENDENT PUBLICATION WRITTEN FOR HI-WAY AND AIR CARGO SHIPPERS





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SHIPPING MANAGEMENT

25 years of traffic—transportation progress

From Shipping Manager to Traffic Executive

A key member of today's company management team, the traffic executive has come a long way in the 25 years since SHIPPING MANAGEMENT made its debut.

Today's TM: more responsibility, upped status, a heavier work load

What are the responsibilities of today's Traffic Manager? How are firms utilizing traffic management to hack costs, boost profits, and expedite shipping-receiving? Here's a capsule report on the TM's present role in industry.

Truck-air-ocean carriers shrink shipper's globe

Back in the late Thirties, zeppelins—such as Germany's titanic Hindenburg—were being hailed as the "air freight carriers of the future." Trucking was just beginning to move forward. And water carriers were in trouble. In the quarter of a century since, however, the three modes of transportation have taken giant strides forward and revolutionized the techniques and patterns of distribution.

The big boom in highway shipping

The year SM first appeared, motor freight was just beginning to operate under the Motor Carrier Act of 1935. Now, in just 25 years, the industry has surged ahead to a position making it the #1 form of surface transport in the U.S.

The sky's the limit for air freight

Spanning oceans and continents with incredible ease, air cargo has all but eliminated time and distance as key shipping factors. Its potential? Enormous, once some major obstacles are overcome.

New horizons in transportation regulation and legislation

Industrial packaging evolves lighter, sturdier, easier-to-handle containers

Matching transport developments step-by-step, industrial packaging is providing the modern components 1961's shipper requires to transport his goods safely and speedily.

Peppey equipment, fresh procedures give material handling a big lift

In 1936, inbound-outbound goods—for the most part—were still being man-handled. Not anymore. Today U.S. industry is endowed with a whole host of rugged, versatile, effective devices, geared to lend new "zip" to any operation.

Updating the shipping room: 25 years of progress in marking and weighing

There's a New Look in 1961's shipping room! Goods are being processed and dispatched at a steady and rapid clip. Here's a quick look at current—and future—shipping room trends.

A shipper's guide to traffic and transportation terms

A shipper's guide to traffic and transportation organizations

Need help? Call any of these organizations. They stand ready and willing to assist you in any problem.

1961 Buyer's Guide and Directory

In this invaluable section, products and services are arranged alphabetically, under a comprehensive subject index. Listings are detailed and should meet any traffic-transport need.

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SHIPPING MANAGEMENT

1961 MANUAL & DIRECTORY EDITION

1936-1961:

FROM SHIPPING MANAGER TO TRAFFIC EXECUTIVE

Soaring in importance as a key man on company management teams around the nation, the Traffic Manager today stands on the threshold of a new and golden era. His status within his firm has never been higher. His duties have never been as all-encompassing. And never before has he been given the responsibilities—and the challenges—he currently has.

The TM's position in 1961 is a far cry from what it was back in 1936. In an article entitled *Big Opportunities and Responsibilities for Shipping Managers*, appearing in its very first issue, SHIPPING MANAGEMENT points out:

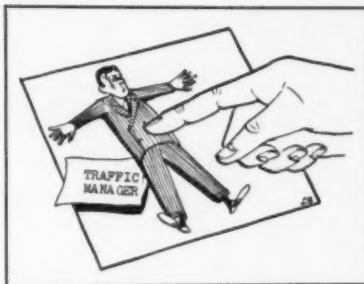
"American industry, with all its much deserved reputation for progressiveness and ingenuity in production and merchandising, still seems to have a 'blind spot' when it comes to the handling and shipping of its goods. A recent survey shows that only 30% of industry employ men with the title of Traffic Manager. The remaining 70% apparently consider the incoming and outgoing flow of their materials and merchandise of subordinate importance to their production and selling efforts.

growth of field

"This may have been a perfectly reasonable attitude," SM continues, "in the days when the man who made his own products—in a small plant—probably delivered them personally to the customers he had sold. Today, however, with the complex scheme of distribution confronting all industry, the good old days of 'I'll bring it right over myself' are pleasant memories—and nothing more!

"The field of shipping management, during the years to come, is going to attract more men of executive calibre. It will require men whose training and ability match that which is now expected of those who direct production or sales.

"The opportunity for men who can coordinate the handling and shipping of goods, with the work of these other departments, is growing every day—and growing fast!"



And so it has!

Today's TM is a well-trained, top-calibre executive. He knows and understands the ABCs of his company's operation. And he relates the activities of his own department to the functions of other firm units.

His title is in a state of flux. From Shipping Manager, he moved to Traffic Manager. From Traffic Manager, in many instances, he has risen to company Vice President—Transportation; Vice President—Distribution; Director of Transportation; or Distribution Manager.

So important has the TM's work become—so essential is his function to the well-being of his firm—that, last year, the American Management Association staged the first conference on the *Management of the Physical Distribution Function* in its history.

Result? A tremendous turnout and widespread interest. Another result: publication of an invaluable research study. Title: *Physical Distribution Today*.

Another strong indication of where traffic management is heading and of the importance being placed on its company role: the fact that traffic department salaries are rising, slowly but surely.

Recently completed by the Transportation Department of the Commerce and Industry Association of New York: an extensive analysis of trends in transport personnel salaries. Period covered: June 30, 1957, to September 1, 1960.

The survey was conducted under the direct supervision of Stephen Tinghitella, Director of the Association's Transportation Department. Survey results:

Traffic Clerk—Median Salary, 6-30-57, \$80; 9-1-60, \$85. Average Salary, 6-30-57, \$80.30; 9-1-58, \$81.65; 9-1-60, \$83.68. High Salary, 6-30-57, \$117; 9-1-58, \$121; 9-1-60, \$144. Low Salary, 6-30-57, \$47; 9-1-58, \$54; 9-1-60, \$55.

Freight Claims Supervisor—Median Salary, 6-30-57, \$107; 9-1-60, \$121. Average Salary, 6-30-57, \$96.33; 9-1-58, \$128; 9-1-60, \$129.03. High Salary, 6-30-57, \$219; 9-1-58, \$219; 9-1-60, \$194. Low Salary, 6-30-57, \$68; 9-1-58, \$80; 9-1-60, \$87.

Rate Clerk—Median Salary, 6-30-57, \$103; 9-1-58, \$100; 9-1-60, \$100. Average Salary, 6-30-57, \$96.33; 9-1-58, \$98.20; 9-1-60, \$103.77. High Salary, 6-30-57, \$143; 9-1-58, \$129; 9-1-60, \$143. Low Salary, 6-30-57, \$55; 9-1-58, \$60; 9-1-60, \$60.

Senior Rate Clerk—Median Salary, 6-30-57, \$115; 9-1-60, \$126. Average Salary, 6-30-57, \$114.98; 9-1-58, \$120.48; 9-1-60, \$128.63. High Salary, 6-30-57, \$191; 9-1-58, \$175; 9-1-60, \$197. Low Salary, 6-30-57, \$65; 9-1-58, \$69; 9-1-60, \$78.

Rate Supervisor—Median Salary, 6-30-57, \$147; 9-1-58, \$156. Average Salary, 6-30-57, \$150.53; 9-1-58, \$157.90; 9-1-60, \$170.31. High Salary, 6-30-57, \$224; 9-1-58, \$231.00; 9-1-60, \$269. Low Salary, 6-30-57, \$75; 9-1-58, \$100; 9-1-60, \$110.

Rate Analyst—Median Salary, 6-30-57, \$133; 9-1-58, \$132; 9-1-60, \$126. Average Salary, 6-30-57, \$139.58; 9-1-58, \$140.65; 9-1-60, \$134.37. High Salary, 6-30-57, \$288; 9-1-58, \$242; 9-1-60, \$230. Low Salary, 6-30-57, \$86; 9-1-58, \$89; 9-1-60, \$77.

Today's TM: more responsibility, upped status, heavier work load

Precisely what is the traffic department doing for its company? What are some of the major responsibilities of the TM?

An evaluation of recent surveys indicates that the TM is currently performing a wide variety of functions at firms around the nation. Included:

- Directing company car fleets and obtaining transportation for company personnel (90% of all firms).
- Overseeing company shipping department operations (50%).
- Directing the development and utilization of packaging techniques, equipment, and components (35%).
- Selecting appropriate warehousing sites and new plant location (40%).
- Supervising the protective packaging of outbound merchandise (30%).
- Selecting handling equipment (15%).

In addition, today's TM increasingly is playing a decisive role in:

- Filing loss and damage claims.
- Tracing consignments.
- Determining rates.
- Working with production and ad-

vising on how to get the lowest freight classification possible by utilizing specific components or materials in a product.

- Maintaining effective, harmonious company-carrier relations.
- Selecting the appropriate routing for a shipment.
- Representing the company before government and other units in matters pertaining to transportation.
- Keeping top management well informed on fast-breaking traffic-transport developments.
- Advising customers on shipping matters and procedures.
- Effectively keeping sales and purchasing abreast of traffic-transport trends, including upcoming rate shifts and economical units of sale.

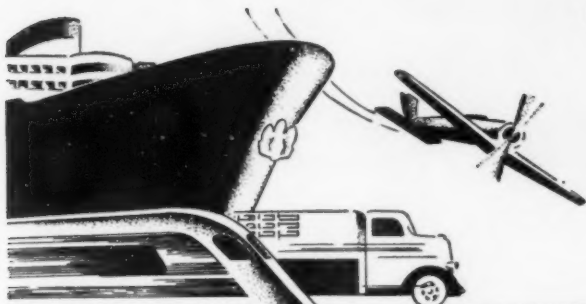
Meaning? Today's TM is a kingpin of industry—and becoming more so all the time! New challenges are coming thick and fast. But luckily, the high calibre of traffic executives and their aides are enabling them to meet these challenges head-on with bold, new ideas and concepts.

Outlook for traffic management in the next 25 years: vastly expanded responsibility; higher salaries; upped status; and the recognition—as a vital area of company management—it so richly deserves.

Keeping pace with the enormous industrial and commercial gains registered by key Asian nations in recent years, transportation is growing by leaps and bounds.

Although road mileage has grown only slowly in the postwar years, the rate of increase of automotive transport has tended to outstrip by far that of railways and inland waterways. From 1948 to 1957, statistics show the number of commercial vehicles has increased 16 times in Laos; 5 to 9 times in Brunei and Thailand; and one to three times in Cambodia, Ceylon, India, Indonesia, Japan, North Borneo, Sarawak, South Vietnam and Taiwan. It has climbed 50% to 80% in Hong Kong, Malaya, South Korea, Pakistan, and The Philippines.





Transportation, 1940: SM's view.

TRUCK-AIR-OCEAN CARRIERS SHRINK SHIPPERS' GLOBE

The Middle Thirties were years of tremendous progress in traffic-transportation. Despite the terrific impact of the Great Depression on U.S. commerce and industry, during this period the techniques and the concepts were evolved and refined which were to pave the way for distribution as we know it today.

A particularly outstanding year during the Thirties: 1936, the year **SHIPPING MANAGEMENT** made its debut.

Thumbing through the first issues of SM and glancing at some of the headlines, you immediately get the impression that traffic-transportation, in '36, was much like a thoroughbred at the starting gate—straining at the reins, pulsating with excitement, waiting to get underway.

Major features presented in **SHIPPING MANAGEMENT** that year:

The Motor Carrier Act: What It Means To Shippers—Says author Ted V. Rodgers: "Truck transportation is now in the most important stage of its development. When Congress, last year, passed the bill putting motor carriers under the jurisdiction of the Interstate Commerce Commission, it recognized that trucking had assumed the status of a major industry . . . 1936 marks the beginning of a new period in motor freight."

A Test of Transcontinental Trucking—Writes C. R. Olson: "To determine the value of motor truck service between the Atlantic and Pacific Coasts, the Keeshin Transcontinental Freight Run was made last month. Besides breaking records, it provides facts and figures to judge the possibilities of coordination of truck and rail, particularly on longer hauls."

News Reviews—Eastern Truck Carriers; Census on Trucking; Planning For ICC Revamping; Joint Conference of Transportation Interests; Fastest Freight Hits 65 Miles An Hour—Says SM: "Time saved is money saved! That's why shippers and receivers are offered the advantages of the New York Central Railroad's fast overnight freight schedules . . . Merchandise shipped at the end of one day reaches its destination at the start of the next. How's that for speed!"

Drafting Rates and Classifications for Motor Carriers—Says John V. Lawrence: "There are approximately 3½ million motor trucks in this Country . . . The Federal Motor Carrier Act sets up two classifications: common carriers and contract carriers . . . It will not be left to the carrier himself to designate his classification. This will be done by the ICC, on submission of the facts in connection with his operation."

From Shipping Clerk to an Executive Job—Writes Sanford Peters: "The average business concern—and sometimes a really big one—has no appreciation of scientific management of its shipping . . . Shipping Managers are underpaid . . . But they are also undertrained . . . Shipping Managers must realize that they must be on the side of the customer, as well as their own companies; that they must apply more science to the daily operation of the departments; that they must find ways and means to protect the employer in all matters pertaining to shipping."

No Mere Stunt—Air Express, Air Cargo Become Regular Business—"A decade ago, manufacturers introducing a new product, or firms creating an innovation in service, took advantage of a new form of express transportation to obtain publicity," reports R. E. Johnson. "This was air express or air freight. Shipping goods by plane was such a novelty that it was good publicity. . . . For some time, the development of air shipping was handicapped by this reputation . . . Today, however, air shipping's worth is becoming widely recognized . . . A recently organized unified, air and air-rail express system, serving North and South America, is carrying ever increasing loads of light-weight shipments."

That's the picture in 1936! But where does traffic-transportation stand today? What are 1961's outstanding developments?

Motor Freight—Booming! More than 3,000 Class I carriers, truck lines operating with gross annual revenues of \$1 million plus. Highway haulers currently transport an estimated 42% of all goods moved in the U.S. and well over 50% of the

total tonnage moved in terms of total value of service. Double-bottoms operating on New York Thruway; Massachusetts Turnpike; other major arteries. Highway construction rushing headlong toward completion date. Other key advances: upped state highway vehicle length-weight limits; trailer interchanges; new and improved over-the-highway equipment; formation of a National Association of Shipper-Motor Carrier Conference, welding seven regional units into one power-packed organization.

Air Freight—Up! Up! Up! Heavier, bulkier, larger loads. Combination carriers currently offer close to 3,000 daily cargo schedules to and from 675 cities. Impact of Jet Age enormous. Air cargo cartage services tie 4,000 U.S. communities to airports and air freight haulers. Utilization of CL-44D swingtail aircraft expected to lend new zip to air freight operations. Recent IATA rate agreement, inked by North Atlantic carriers, ends immediate threat of rate war. Major sky cargo carriers following "wait and see" attitude with regard to changes and advances stemming from stabilization of Atlantic situation.

Inland Waterways—Cargo being transported on more than 29,000 miles of U.S. navigable rivers. Growth is slow; problems, many. Outlook: hazy.

Ocean Transportation—In the midst of revolution, thanks to containerization. Land-sea containerized service growing. Pan Atlantic Seamship Company; Matson; Bull Lines; and Grace in forefront. New York still Number One port in nation.

St. Lawrence Seaway—Finally beginning to live up to its potential to some degree! Utilization growing. Shippers (typical one: Willys) report big savings in transportation costs.

Parcel Post—Improved service blueprint. But users have many complaints. Three key goals being pursued by Post Office Department: more efficient transportation; expedited handling; and improved postal facilities.

25 years of progress:

The big BOOM in

America's Number One form of surface shipping, motor freight today is a keystone underscoring the health and continued success of U. S. commerce and industry.

Who would have thought, though, back in 1936, that highway hauling would grow so quickly and become so efficient and dependable in just 25 years? Who could have predicted the evolution of highway equipment, capable of carrying any product anywhere; the construction of thousands of miles of highway, linking points all over the nation; or the rise of coast-to-coast motor freight lines?

Trucking really moved into high gear following the passage of the Motor Carrier Act of 1935. Yet, according to Lyman G. White (Lt. Col. AUS-Ret.) Public Relations Department, American Trucking Associations, the roots of U. S. trucking may be traced back over 132 years.

At least one large eastern motor freight carrier claims to have operated continuously since 1829, a staggering 132 years. This means that the line was already hauling freight before the establishment of the first railroad service.

These early "oat-burner" operators were subject to a rough-and-ready regulation, of sorts, by their localities and states. Yet, paradoxically, the nation's trucking industry as a whole was under no system of Federal regulation. Until the passage of the national **Motor Carrier Act of 1935**, it was affected only by somewhat sketchy and diverse state and local regulations.

Why? For several reasons. The industry had started, primarily, as local horse-and-wagon drayage. This made it subject almost entirely to municipal ordinances.

Long distance haulage and interstate operations were performed at first by water. Later they became virtually a monopoly of the railroads.

rail regulation

Rails came under a certain degree of Federal regulation in the 1880's with the establishment of the **Interstate Commerce Commission**. But trucking—or its ancestor—had to mark time upon two related events, before reaching a status and stature making national legislation a "must."

One of these events was the introduction of the internal combustion engine and the perfection of the motor truck, its tires, and equipment to a point where it could safely undertake intercity travel, with a reasonable hope of reaching its destination on time with truck and cargo intact.

The other event was the development of adequate intercity, state and national highways. (It wasn't too long ago, if you think back, that America's roads were in a primitive condition, hardly fit for regularly scheduled trucking operations.)

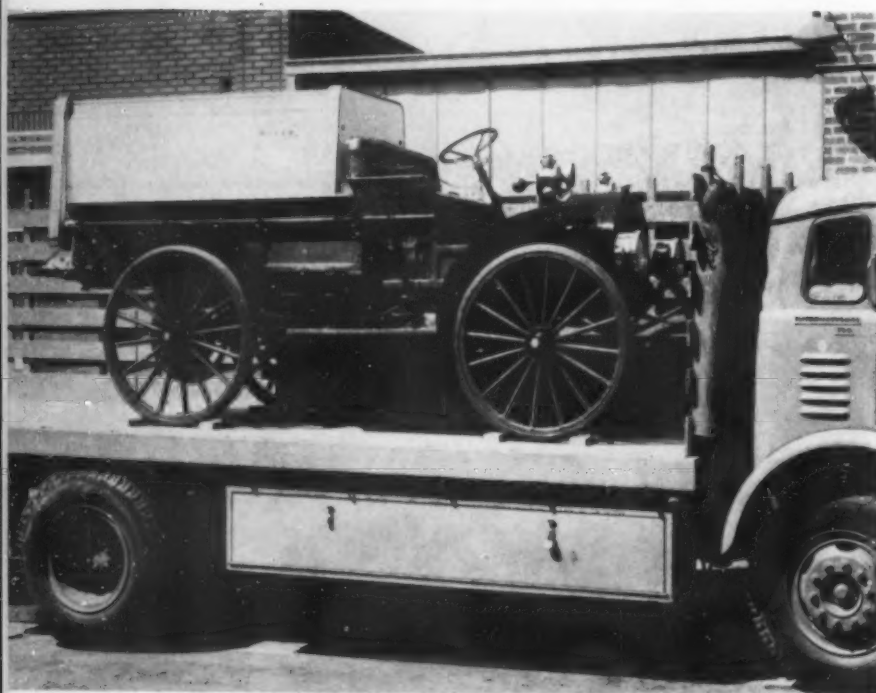
Highway construction, to be sure, had been undertaken by the Federal government following the American Revolution. Unfortunately, though, they had been allowed to fall into disuse and disrepair with the beginning of railroad operations. Then came the development of the bicycle and the growth of an army of cycling enthusiasts. New roads were undertaken. And with the arrival of the auto, the nation's road-building activities were intensified.

Whether good roads were the result of the automobile or whether the incredible growth of the automotive industry was made possible by the building of suitable highways is an academic question. The fact is that the two advanced simultaneously and that trucking did not come into its own until the late '20s or early '30s.

Proof? In 1916, there were 200,000 trucks in operation, most used by local carters. Some 14 years later, in 1930, the number of trucks in use had soared to well over 3.5 million.

This period is as good a place as any to mark the real start of motor freight. Yet, looking back over those hectic—and often tragic years—we must admit that there really wasn't a trucking industry, as such. The fact that trucking today constitutes a stable and mammoth transportation industry, tautly organized and professionally administered, is due to the foresight, initiative, and courage of the pioneers in the field. These pioneers had vision enough to work—and work successfully—to bring order out of chaos. And frankly, chaos certainly is not too strong a word to describe the situation surrounding trucking.

Way back when—in 1908, to be exact—truck shown here was one of the most modern and efficient on the highway. Compare it with photo on next page and you'll readily see how far U.S. motor freight has progressed.



highway shipping

Conditions were so bad, as a matter of fact, that motor freight was totally disorganized. This led to the near extinction of the infant industry before it had taken its first mature steps.

The Great Depression of the Thirties complicated matters. Though trucking was accepted more readily by the public, in many instances it came close to justifying the scorn of those who regarded it as just a flash in the pan.

Markets had shriveled. America's per capita income hit rock bottom. Millions were unemployed. Manufacturing jolted to a standstill. And prices fell sharply.

Result? Manufacturers no longer needed or could afford to maintain large inventories of materials and components. Merchants and distributors were unable to move their goods, nor could they afford to make large scale purchases of consumer items. Inventories had to be held down. Yet, **SOME** goods had to be sold daily and some new products manufactured or both producer and merchant would go bankrupt.

To a large extent, therefore, neither commerce nor industry could afford to buy or ship raw materials and finished products in carload lots—much less in trainload lots. The railroads, for their part, could not furnish the service needed on small shipments.

Under these circumstances which mode of transportation could move the minimal amount of goods being shipped most effectively? The answer, for many firms, was motor freight.

Trucks were available. Highways moreover, were fairly adequate by the Thirties.

Motor freight could provide shippers or buyers, crippled by shrunken credit and a strangled market, with a number of benefits. For one thing, it would let them ship or receive in small lots. Thus operating on a hand-to-mouth arrangement, they could keep their inventories down and sell what they had on hand, before making fresh purchases.

Trucking fit in perfectly with this Depression-type operation. Truck own-

ers could always be found to haul small loads of goods to any point. They could pick up and deliver these small shipments just as often as the receiver was able to buy and dispose of them.

Consequently, for some time during the Depression, things looked unusually bright for the country's truck operators. One result: a soaring number of for-hire truckers. Anyone could buy a truck for between \$200-300 down. If he needed a special trailer body, he could have it produced locally, again with a minimal expenditure.

Outcome: thousands of unemployed workers—unable to find another source of income—moved into the motor freight industry.

Then the inevitable happened. One particularly enterprising truck operator would discover that he was making

Double-bottom units are revolutionizing highway freight transportation.



money hauling a certain commodity between two points. Determined to boost his income, therefore, he bought another truck and hired a driver.

In time, the driver himself would save a little money—enough to put a down payment on a truck. He proceeded to open his own truck line and, as his business grew, employed a driver. What happened was a tremendous splintering movement and the arrival on the motor freight scene of many thousands of new, small truck operators, most of whom had not been in the industry previously.

Shippers, of course, grasped the situation almost immediately. Hardpressed to survive the Depression they bargained among truck operators to drive highway shipping charges down—down—down! Finally, cut-throat competition forced motor freight charges so far down that truckers were no longer making a profit. Adding to the chaos in the industry: the fact that a growing number of

less truckers suddenly found themselves with their backs to the wall. And unable to meet their debts, they went bankrupt.

And still that wasn't all! Another problem also beset the nation's fledgling truck industry—one that plagues it even today. That problem? A determined policy of non-cooperation and destruction of competitors, launched and pursued vigorously by the railroads.

In trucking's earlier years, the rails had looked on highway transportation with disdain—as an elephant looks at a flea. But with the growth of motor freight, they began to take a more and more active interest in intercity trucking.

Basically, they made no real effort to enter highway transportation, although no barriers preventing them existed at the time. The railroads followed another tack. They refused to cooperate with trucking and inaugurated their


it was using roads paid for by the general taxpayer.

Pressed, harried, disenchanted, motor freight crumbled. Chaos held sway. The whole industry was in serious trouble and disaster lay just around the corner.

Added to these difficulties was the fact that motor freight regulation, on a national scale, was non-existent. There was no uniformity in laws governing speed; size; weight; allowable load limits; rates; taxation; or the construction of highways.

Some states moved to establish a degree of regulation within their borders. But even this limited regulation was crushed by a 1925 decision of the U. S. Supreme Court. Ruled the High Court: "The regulation of trucks and freight moving in interstate commerce is not within the powers reserved to the states."

Luckily, motor freight had developed



		DRY FREIGHT		REFRIGERATED FREIGHT	
		APPROXIMATE RANGE AVAILABLE	MOST COMMON DIMENSIONS	APPROXIMATE RANGE AVAILABLE	MOST COMMON DIMENSIONS
A	NOMINAL LENGTH	26' TO 40'	35'	30' 6" TO 40'	35'
B	INSIDE LENGTH	25' 7-5/8" TO 39' 6"	34' 6"	29' 8-1/4" TO 39' 2-1/4"	34' 2-1/4"
C	INSIDE WIDTH	86" TO 92-1/2"	90"	UP TO 89-1/2"	88-1/2"
D	INSIDE HEIGHT	78-3/4" TO 108-3/4"	88-3/4"	71-7/8" TO 101-7/8"	83-7/8"
E	DOOR WIDTH	88" TO 91"	90"	UP TO 89-1/2"	89-1/2"
F	DOOR HEIGHT	71-7/16" TO 101-7/16"	83-7/16"	67-5/16" TO 97-5/16"	79-5/16"

NOTE:—DIMENSIONS SHOWN ARE BASED ON THE NEW SQUARE FRONT BODY DESIGNS. THERE ARE SLIGHT VARIATIONS IN DIMENSIONS OF EQUIPMENT FROM DIFFERENT MANUFACTURERS SO THAT A LOADING TOLERANCE SHOULD BE ALLOWED.

TRUCK-TRAILER DIMENSIONS

shippers had lost confidence in the ability of motor freight to perform the services they required—even though their determination to drive transport costs down had played an important role in fostering the deterioration of highway service.

There was still another element contributing to the downfall of many a truck operator. That element? Poor or no accounting controls. Truckers maintained their offices in their heads. They were unaware of hidden costs; made insufficient or no allowance for depreciation; and failed to keep close tabs on vehicle replacement, general overhead, registration, and insurance costs. And they certainly made no provision for expansion or future capital investment.

What happened? What had to happen. Vehicles fell apart. Service hit a new low. Breakdowns and delays became commonplace. So did accidents. Count-

less traditional tactic of attacking motor freight, directly and indirectly.

The nation's railroads filed reduced rates to destroy highway shipping—and, in many instances, succeeded in wiping out motor freight carriers. They pressed for state legislation restricting truck load limits and sizes to a ridiculously low point, one at which continued operation was unprofitable. They urged—and legislatures passed—tax measures burdening truck operators severely.

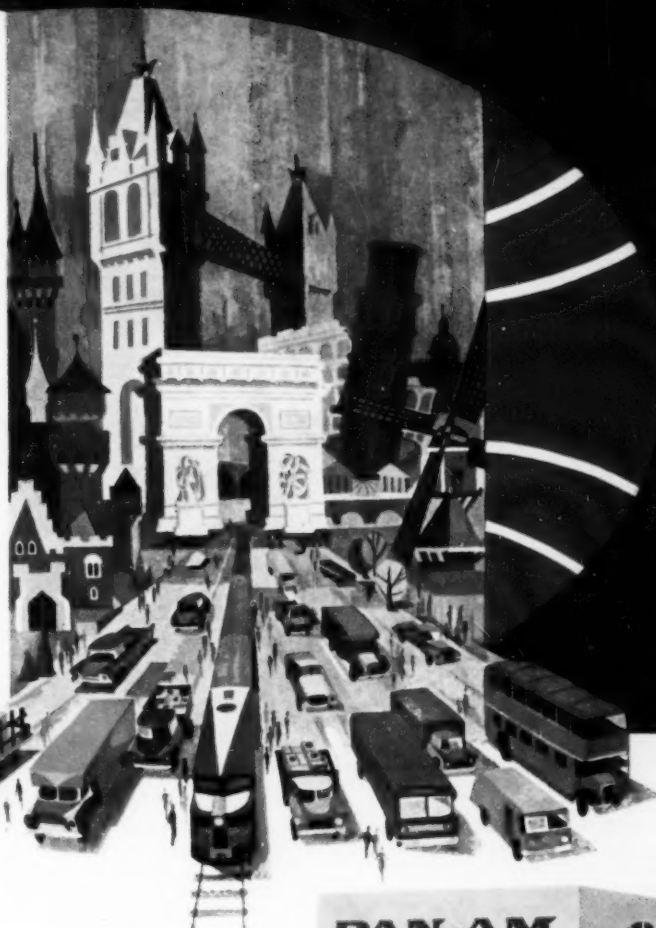
Under a full head of steam, the railroads didn't stop here. They engaged in below-the-belt campaigns to discredit trucking as a nuisance and as a menace to the motoring public. What's more, after originally backing the movement for better roads—designed to feed their lines—they did a complete flip-flop. Their new line: highway transportation was enjoying an unfair subsidy because

a growing array of brilliant, energetic proponents. These men recognized that trucking was doomed if chaos was permitted to reign much longer. They saw the need for Federal regulation. What's more, they believed such regulation inevitable.

A conference of industry leaders and government officials convened in Washington on June 17-18, 1935. Bluntly, the ATA—on behalf of the trucking industry—demanded Federal regulation. Active in initiating this step were: Mr. Rodgers; Mr. Lawrence; Harold S. Shertz; James Murphy; Edward S. Brashears; H. D. Horton; Mr. Belson; L. A. Raulerson; Percy F. Arnold; and John Blood. Others pushing for regulation: Chester G. Moore; Frank C. Schmidt; E. J. Buhner; Mr. Anderson; Mr. Humphreys; and William G. Fitzpatrick.

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On the Interstate Commerce Commission side, Coordinator Eastman, John L. Rogers, and Charles Morgan lent their badly needed support.

The draft language of the proposed legislation was the work of Mr. Eastman. ATA Executive committeemen analyzed it and proposed 63 amendments. Some 56 of these were accepted by Mr. Eastman.

Presented to Congress, the bill found strong support. In the Senate, Senator Burton K. Wheeler—then Chairman of the Interstate and Foreign Commerce Committee—backed it. So did an up and coming Senator from Independence, Missouri. His name? Harry S. Truman. On the floor of the House of Representatives, meanwhile, the bill was supported by Representative Sam Rayburn and Representative George Sadowski.

Three months after the death of the NRA, the campaign thundered to a close. The Motor Carrier Act of 1935 became law, as Part II of the Interstate Commerce Commission Act. Regulation was attained!

Charged with the task of administering the law, the ICC called on all truck operators to register, in order to protect themselves. The ATA also alerted trucking organizations to the provisions of the act and urged them to register.

All told, some 87,000 applications were received by the ICC. Since most of them were not subject to the provisions of the Act, however, the number registered initially was reduced to 30,000.

Although this regulation of motor carriers was more comprehensive than that for railroads, there were the usual birth pangs. Extensive rate cutting was one of the worst.

With all registered carriers required to publish their rates, competitors could readily learn them. Many yielded to the temptation to hack their own accordingly. This early reaction soon became so bad that the ICC was forced to issue minimum rate orders covering the various freight territories.

The desired effect was achieved. Slowly, the industry stabilized.

Another headache stemming from regulation was the advent of illegal carriage—still plaguing highway shippers today.

For the most part, though, the immediate effect of regulation was beneficial. Motor freight was on its way to its current status as the nation's foremost method of surface transportation.

The facts speak for themselves. Prior to 1935, motor freight was a floundering, disorganized industry, operating under near-chaotic conditions. Since the establishment of regulation, however, it has surged forward to new heights of efficiency; provided shippers with the most effective and flexible form of surface transportation available; and grown to the stature of an industrial giant.

When regulation went into effect, there were just over 3½ million trucks in the U. S. Last year there were more than 11 million—and they hauled three out of every four tons of freight transported from point-to-point in the country.

In fact, the total tonnage carried by motor freight annually now amounts to more than 42% of the national total and more than 50% of the national total in value of service.

Shippers? They're becoming more sold on highway transportation. They like its speed, dependability, and efficiency. They especially like its low loss and damage rate—a rate far better than that of the railroads.

Evidence of this increasing confidence in motor freight on the part of shippers: intercity ton-miles carried by all trucks skyrocketed from less than 33 billion in 1939 to 260 billion in 1958. The percentage of inter-city ton-miles racked up by trucks has doubled in the past decade. It now amounts to well over 84 billion in the for-hire classification alone.

Trucking concerns are becoming bigger and more financially sound. A mounting number are offering stock to the public. Investment in individual Class I and II motor freight lines hit a national average of \$411,478 in 1957. 1944's average: \$79,000.

Since the passage of the Motor Carrier Act, the ICC has twice reclassified truck lines. The gross annual revenue of a Class I carrier today is \$1 million-plus, as compared to \$100,000 plus in 1950.

Finally—and this point is extremely significant—the overall growth of trucking has actually progressed at a faster rate than that of America's Gross National Product.

The development of trucking, since the passage of the Motor Carrier Act, has enabled it to keep pace with surges in the nation's economy. As a matter of fact, motor freight's growth has facilitated the outward movement of our fast growing population and the dispersion of modern industry.

The law holds that the operations of private truck fleets and the hauling of farm products are free of Federal control. So are the operations of non-profit shipping associations. Motor freight common carrier operations, of course, do come under Federal regulation. Truckers must be OK'd by the ICC and must adhere to a variety of rate and service regulations.

"Gray" truckers, while operating like bona fide motor freight carriers, don't comply with these regulations. As a consequence, they may charge substantially lower rates—at the expense of highway freight safety; personnel standards; insurance; terminal facilities; and equipment.

A good deal for shippers? Not if undamaged, properly processed, insured, on-time deliveries are important!

The ICC has promised to up its campaign to uncover and punish both shippers and carriers moving goods illegally. So has the American Trucking Association. At last fall's New York Annual Convention of the ATA, an initial budget of \$50,000 was voted to hire investigators to fight "gray" truckers. Information gathered by these investigators is being turned over to the ICC for action.



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Denver, Colorado	DU 8-4567
Detroit, Michigan	VI 3-9505
Evansville, Indiana	HA 3-6487
Kansas City, Missouri	HU 3-9343
Los Angeles, California	AN 8-8211
Louisville, Kentucky	ME 6-1361
New York, New York	LO 4-3320
North Bergen, New Jersey	UN 3-0900
Owensboro, Kentucky	MO 3-5363
Phoenix, Arizona	AL 8-5321
Pueblo, Colorado	LI 3-4425
St. Louis, Missouri	EV 5-3959
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Syracuse, New York	HA 2-5177

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Dayton, Ohio	BA 2-5082
Milwaukee, Wisconsin	DI 2-4110
New York, New York	WI 7-6968
Philadelphia, Pa.	LO 4-1360
(Springfield, Pa.)	
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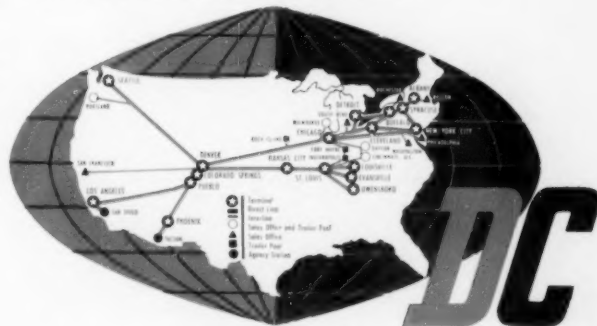
Last year, D-C again maintained an impressive operating ratio while moving more than a *billion* pounds of freight. That's why D-C has money to plow back into new

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The sky's the limit for air cargo

HOW

AIR FREIGHT SLASHES

The epic of the development, evolution, and growth of air freight is a saga of man's triumph—perhaps his greatest—over time and distance.

No one article, no volume, no series of volumes can ever hope to touch more than superficially on the heroic efforts of a handful of men who envisioned the sky as a highway for world commerce and fought to make their vision a reality. For an adequate picture of sky shipping can only be painted on a canvas as broad as the skies through which winged cargo is streaking today to points all over the globe.

Nevertheless, certain events stand out—most of them occurring during the 25 years since SHIPPING MANAGEMENT made its debut. These include:

1911—On September 17th, a venturesome pilot, C. P. Rodgers, successfully completed the first trans-continental flight. It took him 82 hours and 47 minutes of actual flying time to complete the trip from New York to Pasadena. But he demonstrated, once and for all, that the day was dawning when distance would be erased as an obstacle to travel and shipping.

1922—Taking off from Rio de Janeiro in March, Portuguese Admiral C. Coutinho and Commander S. Cabral spanned the South Atlantic by air for the first time in history. Upon landing at Lisbon, they effectively demonstrated that even the oceans would soon be criss-crossed by thundering aircraft, hauling passengers and cargo.

1927—On September 1, 1927, air express became a reality in the U.S. During the first four months of operation, the transport mode airlifted more than 4,000 shipments—pointing the way to air freight's growth in the future. Air mail, which had been inaugurated in 1918, was already surging ahead.

World War Two—The onset of global conflict marked a turning point in air freight's history. Why? Because military organizations began evolving and utilizing sky shipping at a fantastic pace. Outcome? The new techniques and the faith in the dependability of air freight needed to get the new industry off the ground.

1944—A big year for air freight, 1944 witnessed the launching of an air freight hauling program by a certificated trunk line air carrier for the first time.

1947—Air freight was really moving! By August of this year, all major U.S. domestic trunk line carriers were hauling air freight. In addition, the first all-cargo air freight operations in history got off the ground.

1948—Faced with the necessity of keeping Berlin free, the Western Powers turned to air supply to do the job. And it did—settling, once and for all, the question of air freight's ability to offer steady, dependable shipping service from point-to-point.

(Continued on page 16)

Here's a handy chart, developed by Delta Air Lines, which will show you the BEST way to ship your freight. Keep it handy. You'll certainly refer to it often in the future.

	0 TO 300 MILES	300 TO 600 MILES	600 TO 1000 MILES	1000 TO 1400 MILES	1400 TO 1800 MILES	1800 TO 2400 MILES
1 Pound						
2 Pounds						
3 Pounds						
4 Pounds	AIR PARCEL POST*					
5 Pounds						
6 Pounds						
7 Pounds						
8 Pounds						
9 Pounds						
10 Pounds						
15 Pounds			AIR EXPRESS			
20 Pounds						
25 Pounds						
30 Pounds						
35 Pounds						
40 Pounds						
45 Pounds		AIR FREIGHT				
50 Pounds						
55 Pounds						
60 Pounds						
70 Pounds						

S SHIPPING TIME & DISTANCE



Above: DC-3, now celebrating 25 years in service. Below: a power-packed Convair 880.



NEW HORIZONS IN TRANSPORTATION LEGISLATION

Want to start a red-hot discussion? Then just raise the question of the relationship of the Federal government and its agencies to traffic-transportation. These relationships have been debated ever since Washington jumped feet first into the transportation picture with the creation of the Interstate Commerce Commission.

During its 25 years of service to shippers, SHIPPING MANAGEMENT has frequently spotlighted major Washington-transportation issues. In its very first edition, SM presented a detailed evaluation of the Motor Carrier Act of 1935 and its potential impact on motor freight.

More recently, SM has campaigned actively for the establishment of a Federal Department of Transportation, with a cabinet-rank secretary; has kept its readership up to date on Civil Aeronautics Board decisions and the mounting tempo of the agency's operations under its top-flight chairman, Alan Boyd; presented up-to-the-minute data of the CAB-IATA-North Atlantic air freight carrier situation; analyzed ICC decisions; and presented an intensive study of proposed highway levies.

As important a role as Washington has played in transportation in the past, however, it pales in comparison with what's ahead.

Says Robert E. Vantine, Traffic Manager, Bloomingdale's of New York:

"There is little doubt in my mind, but that we will see wide, sweeping changes in our transportation regulatory bodies during this new administration—changes that will certainly affect our business with the two major commissions, the Interstate Commerce Commission and the Civil Aeronautics Board.

"Although there have been several

studies on our transportation system, probably the most important of these are the *Doyle Report*, a study requested by the Senate Committee on Interstate and Foreign Commerce, and the *Landis*



Report, initiated by President Kennedy, before he took office. However, there are also the *Booz Allen & Hamilton Report*, known as the *Consultant's Study*, and the *Practitioner's Committee*, which were appointed by the ICC, both of which deal only with the workings of the Interstate Commerce Commission.

"All of these reports are voluminous in content and it would be impossible to go into any one of the studies in detail at this time. The 732 page *Doyle Report* was 18 months in the making. Of course, the key issue here is the creation of a cabinet level post, such as Secretary of Transportation which would abolish the ICC, CAB, FMB, etc., into a Federal Transportation Commission.

"On the other hand, the *Landis Report* feels it is premature to replace these agencies and therefore, recommends the appointment, by the President, of a Chairman of the ICC. The *Landis Report*, also clearly recognizes four basic ills of our transportation regulatory bodies—delays, inconsistency, lack of responsibility for decisions, and excessive costs of litigation to all parties concerned.

"Presently, there are mixed emotions regarding these recommendations. But it seems likely that we will see an appointment on the executive level this year, if Congress can decide whether or not transportation should be controlled or regulated as an arm of Congress, or be subject to the control and regulation of the Executive branch of our government.

"Representative Younger, Republican of California, has introduced a bill, HR 1126, proposing a Department of Transportation and Communications in the President's Cabinet. Agencies that would come under this department are, the ICC; CAB; Federal Maritime Board; Maritime Administration; St. Lawrence Seaway; National Advisory Committee for Aeronautics; and the Federal Communications Commission.

"I strongly suggest that all traffic men watch and study these bills, as they appear, so that they may make their own decisions as to whether or not they are opposed or in favor of these changes."

With regard to parcel post legislation, Mr. Vantine—who is chairman of the National Retail Merchants Association Traffic Group's transportation committee—points out: "Parcel post service

(Continued on page 21)

Air Cargo (Continued from page 15)

1951—In Korea, air freight again was in the forefront of the U.S. defense machine. A lifeline in the sky, linking the U.S. and Korea, was established and maintained under the most arduous conditions.

1955-1961—The big boom in air freight got underway during this

period. All-cargo aircraft; the development of jet planes; the expansion of foreign and domestic air operations; the creation of super-dooper airports, all set the stage for air freight as we know it today.

Where does air cargo stand in '61? On the threshold of a golden future. Problems? Many. Solutions? Available.

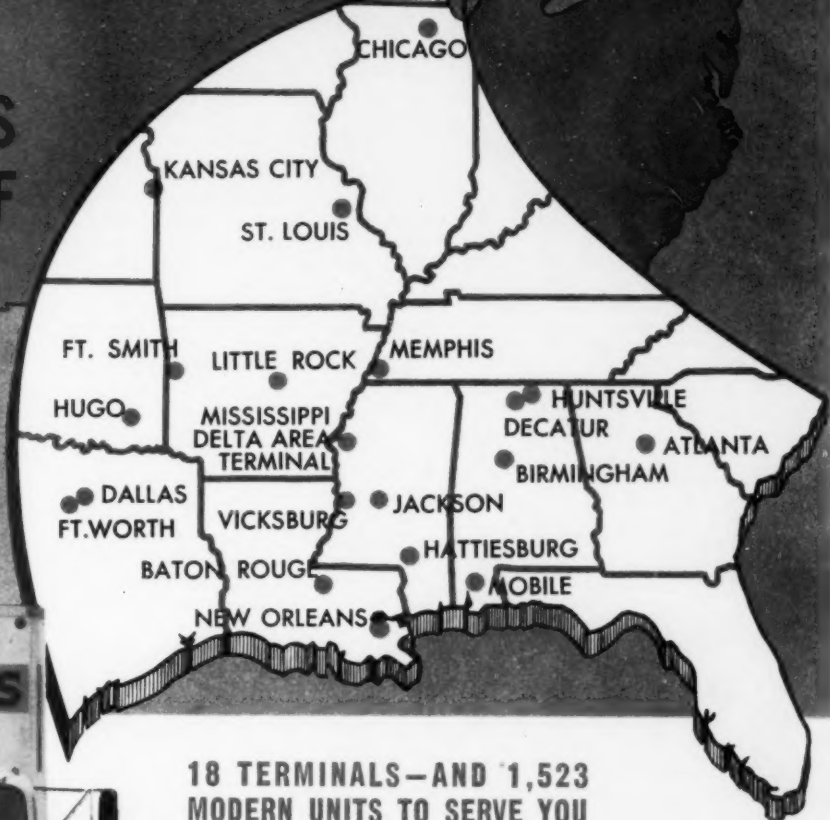
Prime target of air freight: to overcome all obstacles standing in the way of air freight's potential in the years ahead.

(For a complete evaluation and analysis of air freight today, see SHIPPING MANAGEMENT's May and June, 1961, issues. Both were devoted exclusively to air freight and the impact of the Jet Age on global commerce and industry.)

COMPLETE AREA COVERAGE

GREAT LAKES
TO THE GULF

SOUTHEAST-
SOUTHWEST



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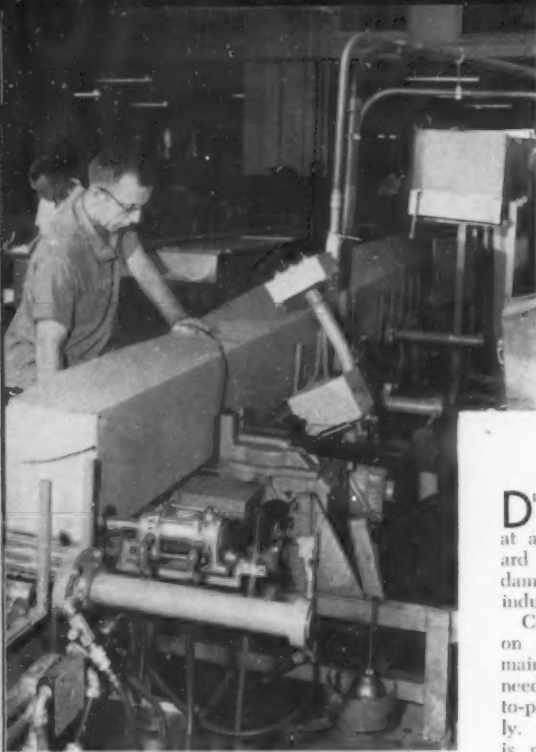
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Packaging evolves lighter,



Semi-automatic packaging component is a far cry from equipment in use 25 years ago, pictured on next page.

"Industrial packaging has come a long way during the past quarter of a century. Chief beneficiary? The shipper—who pays less, but gets more, for his packaging dollar."

During the past quarter of a century, industrial packaging has developed at a phenomenal rate. Once a haphazard affair—hard-hit by ensuing loss and damage—packaging today ranks as an industrial science.

Companies everywhere rely heavily on trained personnel to evolve and maintain the techniques and procedures needed to move their goods from point-to-point smoothly, safely, and efficiently. And the packaging industry itself is making the fullest use possible of research, new materials, and bold concepts.

Proof of packaging's growth? Take the fibre box industry. At the beginning of this century, there was none. It wasn't until 1906—when rail tariffs provided for the acceptance of articles packed in fibreboard—that the industry really got going.

By 1935, when SHIPPING MANAGEMENT appeared on the scene, corrugated and solid fibre shipments amounted to about 25 billion square feet per year. Today they are well over the 100 billion square foot mark and moving fast.

The plastic or polyethylene container? It didn't really exist in 1935. It was not until after World War Two that this industry moved into high gear and began moving to the position of importance it currently holds.

Wirebound boxes and crates? The models of '35 were a far-cry from the safe, effective, lightweight units in use today. Ditto for steel containers; fibre drums; and barrels.

Turning from the past, where does packaging stand today? And where is it headed?

Says E. L. Rzepecki, Technical Manager, Minnesota Mining & Manufacturing Company:

"Much has been said and written already, and more will be, about the field of packaging. There are good reasons for this. It has been estimated that between \$16 and \$20 billion dollars will be spent this year on packaging materials and systems. The future of the size of this field is hard to predict except in such terms as 'fantastic' and 'staggering.'"

"However, it isn't enough to consider just the monetary value involved. The needs of the packaging world tomorrow will have little similarity to those of yesterday and today. Materials used to date may not meet the critical require-

ments of tomorrow. The premiums already placed on space and weight for air and missile means of shipment will soon outmode current packaging systems as being too heavy, too bulky and too difficult to dispose of."

As the world becomes more advanced in all technology, including that of shipping goods and making them easier to use, and more appealing, an increasing burden will be placed on manufacturers of packaging materials. Mr. Kzepecki continues. Already much progress has been made towards making packages lighter and stronger. New materials never dreamed of a short while ago have made their appearance. Films which are clear and strong and impervious to moisture and corrosive action of chemicals will replace conventional wrappings and containers. Containers themselves are undergoing a revolution in design.

edible containers

It is expected that in very critical cases, such as supplying of rations to soldiers, the shipping containers themselves will be edible and thereby eliminate a disposal problem.

What is all this aimed at? Simply to cut down on weight and space, make packaging easier to use and dispose of and also to provide a good deal of uniqueness.

"It is not my intent to dwell on things already well publicized but to present some rather new and unique means of packaging systems just getting underway," says the 3M executive. "These should find a definite place in the world of packaging in the next 10-20 years."

One such unique packaging method is known as *Suspension Packaging*.

Most aircraft control surfaces (wings, elevators, stabilizers) are shipped today in wooden crates incorporating special supports such as saddles, cradles, yokes or blocking. Additional cushioning material is usually necessary to protect thin skin surfaces against abrasion at points of contact, and to distribute the stresses and pressures created by rough handling during shipment.

In spite of these precautions, damage frequency remains high. Dents in the surfaces, or actual fracture of parts, can occur when the packaged items are subjected to sharp impacts and the supporting saddles do not follow the con-

sturdier industrial containers

tour of the part accurately enough or the padding is not sufficient to prevent damage. There have also been instances where dirt or dust has gotten between the protecting materials and the part surface and the vibrating action of the part in the container actually caused an abrading effect that results in pitting and damage to the surface.

Canvas bags or straps also have been used with some success, but even these do not offer absolute protection, and since these materials are too expensive to be disposable, they must be stored for future use or returned to the point of origin.

A method using filament reinforced pressure-sensitive tape to suspend these articles has been tested and appears to offer a solution. Using a similar suspension package, the North American Aviation Company made a successful trial shipment using this new technique in 1956 when it sent a wing flap from Inglewood (Calif.) to Mobile (Ala.) to St.

Louis (Mo.) and back to Inglewood. The flap was undamaged and the entire package was intact.

Since this technique appeared to have several advantages for packaging aircraft components as well as other special items which are difficult to support, the Packaging Section, Materials, Laboratory, Wright Air Development Center (WADC), underwrote a test program with Forest Products Laboratory (FPL) to determine basic concepts and application techniques.

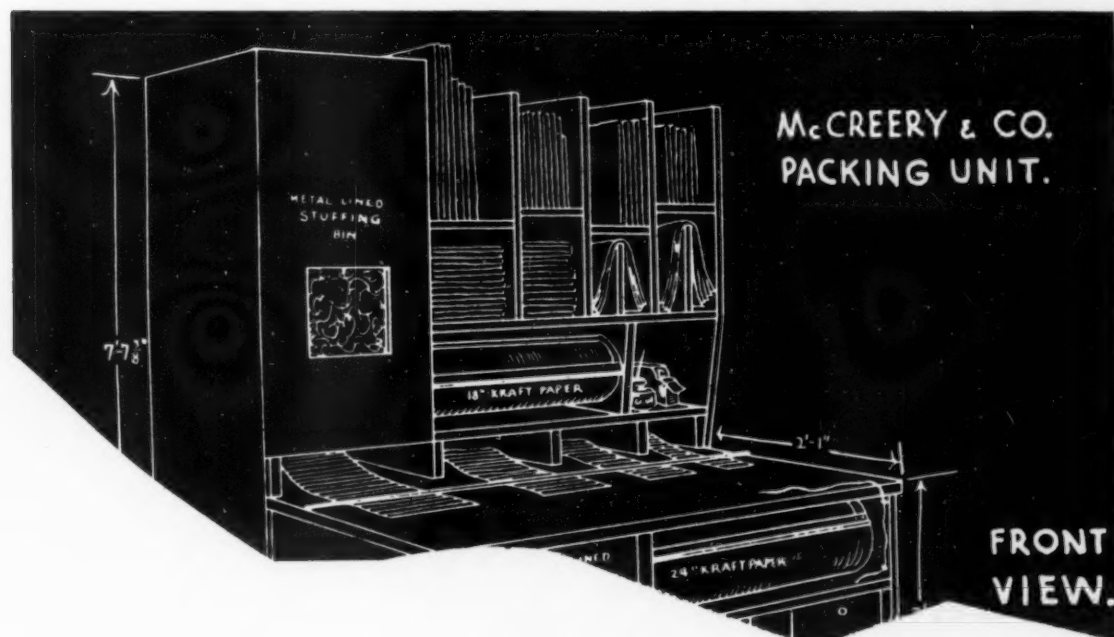
Work done thus far indicates that suspension packaging will cut material and labor costs up to 50%. In most instances, it will also provide a reduction in weight and volume of the packaging material. Finally, the tape reduces the probability of damage by transmitting the forces in shear over a large portion of the surface of the article being packaged rather than concentrating shock as a compressive force. Even under extreme shock, when sections of

the tape have failed, the remaining tape sections have given a sufficient support to prevent damage.

Successful tests have been run on articles weighing up to 180 lbs. Although heavier items may also be packaged by this method, actual tests have not been carried out, and it is apparent that there will be a weight limit. It is doubtful whether articles weighing more than 300-400 lbs. can be handled efficiently by this method. One of the limitations would be the difficulty in applying enough tape to give the article the support necessary.

A suspension material used successfully in tests conducted by North American and Forest Products Laboratory is a black, polyester-backed, glass reinforced, pressure-sensitive adhesive tape, with only about 3% stretch and tensile strength of approximately 450 lbs./in. of width. The tape was selected for suspension packaging after thorough evaluation because it has the necessary

Appearing in SM in 1940: this "ultra-modern" packaging setup.



**"The future of packaging is unlimited.
On tap: edible containers; added use of
'wonder' materials; growth for corrugated."**



weathering properties for outdoor storage, in addition to strength. The polyester backing is tough, and resistant to moisture—the glass yarn is not affected by either sunlight or moisture.

The type of crate presently recommended for suspension packaging is the open, wood frame type as described in Military Specification MIL-C-35731 (USAF). However, aluminum crates have also been studied in this system.

The clearance between the crate and the part will depend upon the size and flexibility of the part and the room needed for tape application. The minimum required inside each surface of the crate is 3% of the unsupported length of the principle tape preventing movement of the part toward that surface of the crate plus an allowance for flexure of the part and the crate. However, not less than 1½" clearance between the crate and the part is recommended.

It is believed that suspension packaging will solve many of the present problems being encountered when aircraft control surfaces are being shipped. Not only will the amount of damage be reduced, but the package itself should in most cases be relatively smaller, lighter and less expensive than previous methods allowed. As more experience is gained, it is apparent that other industries will find suspension packaging will reduce shipping costs, damage and perhaps even shipping time.

There is another packaging approach which will come into its own more in the future and that involves the use of reinforced plastics.

Very briefly here are three interesting packaging uses that reinforced plastics will be put to in the future. The first of these is a lightweight special type of battery box used in missiles which will be able to withstand severe G loadings. The second shows some work done recently to develop a futuristic type of lightweight rectangular container, which fits in with plans of flexible utilization of railroad and truck shipping. It was evaluated by the Rock Island Railroad and was shown to resist 7-12 G's of bumping encountered in normal transportation. This was the first time such a lightweight box was made to resist such forces.

A third interesting use of reinforced plastic, meanwhile, is and will be as a lightweight, high-strength carrying case for the polaris missile. Various constructions will be used, but they will all be very uniform with reference to concentricity.

Still another very interesting new sys-

tem of packaging will involve the use of films. There are a number of very useful ways films will be used in the future.

In the field of military packaging, they will provide transparency, which permits 100% visual identification and 100% inspection at all times vs. the 10-20% now possible which involves some destruction of the package.

Replacing cans for sterilization of foods will become very widespread. The space and time savings as well as the sanitary aspects of this packaging means should be obvious.

In the field of medicine and pharmaceuticals it should be possible to replace glass vials and jars with suture packs that will be convenient, better, and sterile. Pharmaceuticals and detergents and soaps should be convenient to use and free of contamination.

Today paints and their colorants are packaged in cans and hard-to-use tubes. Tomorrow these films should eliminate many inconveniences, and make a much more desirable package for paints, colorants and other materials.

lightweight films

In addition to the aforementioned uses for this type film, conventional liquid containers of many sizes will be replaced by variations of high-strength, lightweight films.

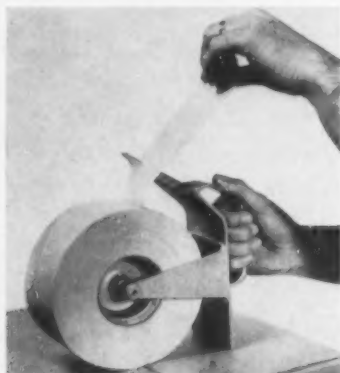
Air inflatable structures already well-publicized, will also provide means for providing lightweight buildings—so light they can be transported in folded form with great ease and with the use of very small space.

The last of the new packaging means to be covered here involves the use of high-strength filament reinforced pressure-sensitive tapes in shipment of materials other than by suspension packaging.

Perhaps some of you have already been exposed to the use of filament tape for closing and reinforcing various types of cartons. Various military installations and numerous industrial concerns now use tape this way.

Automated packaging with reinforced tapes is illustrated by the Paulson-Lethrop palletizer-taper. This process positions the pallet of cartons, straightens and aligns them and then applies a band of tape around the top row of cartons for unitization and safe and easy handling. The finished load is neat and ready to ship with no danger of falling apart.

Finally, a new and unique system of unitized carton and bag goods will come



Dynamic! That's the only way to describe U.S. packaging today. Its prime aim: finding better ways to pack and ship the nation's products.

1936-1961: A ROUNDUP OF TRAFFIC- TRANSPORTATION TRENDS



Teletype systems expedite highway shipping.

Traffic Education—Vastly improved and expanding. Emphasis being placed increasingly on well trained TMs. Leaders: LaSalle Extension University; Northwestern University Department of Transportation; and Stanford University Transport Management Department.

Taxation—Hitting motor freight carriers hard! Special truck taxes hovering around \$3 billion mark. New Federal levies being fought. Outlook: grim.

Traffic office trends—All-out drive to simplify paperwork, update procedures. More TMs using tape recorders and dictating equipment. Copying devices growing in popularity. Traffic libraries being maintained more efficiently, pruned more frequently. Some major concerns are employing electronic computers in traffic-transportation operations.

Shipping loss and damage—Both air cargo and motor freight moving steadily toward vastly reduced in transit loss and damage. Better handling, tighter controls credited with underlying gains. Railroads still plagued with awesome loss and damage rate. Ocean carriers face similar problem. One hope: containerization's ability to KO loss, damage, and pilferage.

Shipping communications — Motor freight far out in front of all forms of surface transportation in keeping close tabs, through better communications, on in transit shipments. Air carriers doing a bang-up job, too.

Shipping documents—The trend, in a word, is definitely toward simplification. Shippers pushing hard for changes.

Legislation

(Continued from page 16)
has been improving generally throughout the country, since the rates were increased last year. This is expected to continue through improved handling and mechanization.

"Again this year, bills have been introduced in Congress to readjust the size and weight limitations on fourth class parcel post, to one hundred inches in girth and length, combined with a weight limitation not exceeding 60 pounds. There are also bills in Congress to increase the rates on third class mail in bulk and also to guarantee return

postage on a per piece basis, if this third class mail is undelivered.

"It is expected that Congress will be asked to hike the postal rates to 5¢ on first class mail and make the air mail rates 8¢, in an effort to trim the Post Office deficit. However, I do not believe these increases will become effective this year."

By 1976, we should see in operation at least 25 special airports that will handle only freight, which will be carried in pure jet cargo planes with a load capacity of 50 to 60 tons. These planes will shuttle back and forth across the country and will be in operation 18 hours out of every 24. They won't be supersonic, but will be capable of 500 MPH and will be designed to permit loading and unloading from the front, rear, and sides. Containers will be in common usage and they will be in most instances the property of the shipper who will be in a constant contest with the carrier as to who pays for the weight of the container. Bulk freight rates will average 12¢ a ton mile vs. the current average of 19¢.

Packaging (Continued from page 20)

into its own. This method, using reinforced tape, offers a neat and inexpensive way to assure safe arrival of shipments. This applies to drum goods as well.

The use of reinforced tape will prove to be a huge step forward and has already proven itself. This system is based on the principle of unitizing the top ½ of a load so that it acts as a solid unit and not only stays together but holds the bottom half in place. This is

a much simpler and cheaper method than blocking with wood. The procedure is easy and quick since the only supplies needed are several rolls of tape first affixed to the boxcar walls and then circled around the units of cartons. The final taped loads look neat and very much in place. They are loaded quickly and efficiently, saving both on time and labor space.

"The systems covered by the foregoing," concludes Mr. Rzepecki, "are

only a sample of the effort being expended by research and development groups today for better results tomorrow. Much is being done on adhesives and foamed materials as well. Progress is being made at a fantastic rate. The objectives are real-time saving; cost reductions; ease of disposal; high strength; and low weight. They are aimed at assuring one and all that whether it be a tank or a case of gin, it will get there and get there in one piece."



PROPHESY EQUIPMENT, FRESH PROCEDURES, GIVE HANDLING A BIG LIFT



Material handling in the U. S. has come a long way in the 25 years SHIPPING MANAGEMENT has been reporting on it. From techniques largely dependent on ineffective, time-consuming, and costly man-handling, material handling has become increasingly mechanized.

Available to industry today are a whole host of handling components, tailor-made to shift items from point-to-point speedily, smoothly, and safely, and geared to handle the largest and bulkiest units with dispatch.

Yet, during the past 2½ decades, one facet of material handling has remained constant. That facet? Its goals.

Says SHIPPING MANAGEMENT's Volume 1 • Number 1, published in January, 1936: "Material handling equipment fulfills an important economic function. If properly applied, it serves the two-fold purpose of reducing costs, while at the same time conserving human energy. Both are highly desirable goals.

"All signs on the business horizon point to the increased importance of lowering costs . . . Firms must contend with the problem of meeting keener competition, in an era of lower profit margins. Cost reduction is important today to those who want to remain in business."

Written 25 years ago, this evaluation of the primary target of effective handling is every bit as valid today—if not more so. And mh experts, engineers, and equipment manufacturers are rising to meet the challenge.

What's ahead in handling? According to Yale & Towne Manufacturing Company executive Milton M. Enzer, material handling may "well hold the key to whether or not the U. S. can maintain its world leadership." Why? His reasons make for some stimulating, truly thought-provoking reading.

Declares Mr. Enzer: "Prophecies relegating the United States to second place in the technological and industrial race in the years ahead have recently been made so frequently that they have become commonplace. These prophecies do not take into account a number of vital advantages this nation has over Russia or any other potential industrial challenger. Very advanced techniques and equipment for handling materials are perhaps foremost among these advantages.

"Certainly Russian scientific achievement should serve as a reminder that we have a formidable challenger to our technological and industrial leadership in the future. But it should not cause us to lose any confidence in our ability to maintain and even increase American leadership."

The test of American world leadership in the future, Mr. Enzer points out, will be our ability to meet the problems that will come from the peoples of the world, expanding across the face of the globe in greater and greater numbers—from the underdeveloped countries struggling to begin industrialization—from the constantly increasing demands of Americans and people all over the

world for better things for themselves and their children.

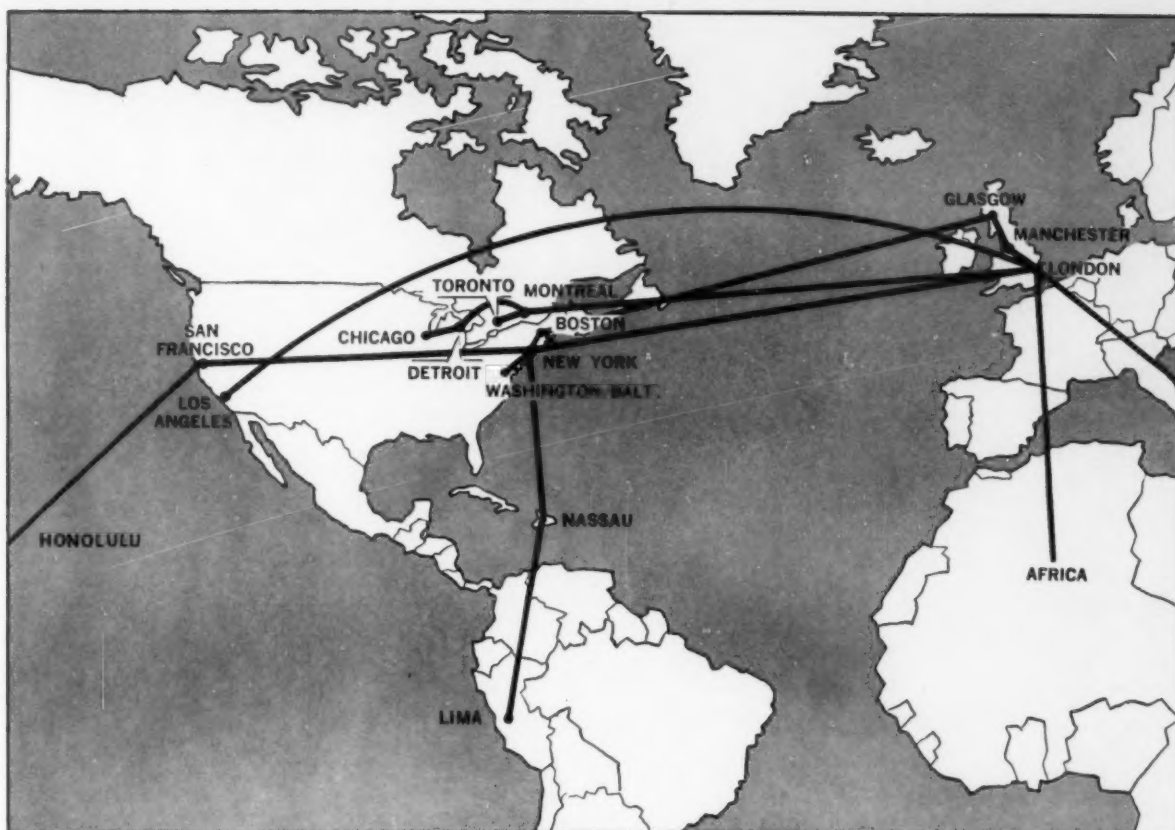
To meet these problems American industry must constantly accelerate its rate of production. There is every indication that we will be able to do this and do it far better than any of our industrial competitors. The reason for this is America's overwhelming supremacy in the most important phase of the manufacturing and distribution processes—the movement of materials and goods.

The bold and continuous research and experimentation carried on by manufacturers of materials handling equipment have made it possible for the United States to develop equipment to meet every specialized need.

Recalls Mr. Enzer: It was during World War II that materials handling equipment won nearly universal acceptance. It was reported that, during the war, one German general referred to the lift truck as "America's secret weapon."

Considering the tremendous superiority of American logistics, that comment is hardly an exaggeration. The use of fork lift trucks made it possible to load and unload supply ships; railroad cars; trucks; and cargo planes in a fraction of the time required to perform the same action manually. Materials handling equipment also freed military personnel for other duties because a few men working with the equipment could handle massive loading and unloading operations that would otherwise have required hundreds of men.

(Continued on page 24)



IT'S EASY TO SHIP BY BOAC

1. New transatlantic cargo rates*
2. More direct service to Britain

1. Starting the first of September, your total distribution costs can be reduced to a significant degree. The new transatlantic air cargo rate structures bring economies to volume shippers by air that are very favorable.

2. What's more, BOAC offers *much more direct* service—707 jets from 10 North American cities to and from Manchester, Glasgow and London, and frequent connections to Europe, Africa and Asia. Also frequent transatlantic DC 7F Freighter Service.

For precision air-cargo handling, call your Freight Forwarder, BOAC Cargo Agent or any BOAC office.

*Effective Sept. 1, 1961, subject to Government approval.

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"U.S. second to Soviet Russia in technological know-how? Bunk! Proof? Our handling methods & components."

Since the war the materials handling industry has expanded to such a degree that today, whenever we talk about the movement of goods, we are talking about mechanized handling. This will become increasingly true in the future, for every aspect of modern technology is based upon movement. It is based upon the systematic, efficient, economical, and accelerated movement of goods from raw sources through all steps of processing and production, through all phases of storing and distribution up to the terminus point of end use.

goal: upped productivity

Our continuing goal of increasing productivity is in essence a materials handling problem. Every improvement in production techniques that can increase the output of a man-hour of work must be accommodated by a parallel improvement in the flow of materials.

The materials handling industry has historically followed the exciting principle that no problem is too difficult for it to solve. In the past, developments in materials handling equipment made it possible for the steel industry to revolutionize its fabricating methods by finding the answer to handling massive coils of steel weighing many thousands of pounds. Similarly, it would be impossible for the automotive industry to manage the huge dies used in automobile production without the special die handlers developed by the materials handling industry.

That, however, is the past. The industry, declares Mr. Enzer, is not resting on its laurels. Some of the develop-

ments in process or in study may sound like pages out of a magician's dream.

Yale & Towne, for example, is certain that it has the means and the knowledge to design handling equipment utilizing photo-electric eyes; radar beams; radio waves; television; and other forms of remote control.

The Automatic Transportation Company has built a fork-lift truck in which every normal motion, including brake application and horn blowing, is controlled by radio wave commands beamed from a distance.

Yale & Towne has already placed remote controlled lift trucks into operation in an area with a high degree of radioactivity which would be hazardous to an operator who was physically present.

A fundamental and revolutionary development now in advanced experimental stages in the *fuel cell* which generates electricity to supply power for lift trucks by the oxidation of gases in a convertor. The possibilities of the fuel cell are enormous. Those now under experimentation produce amounts of electricity sufficient to meet the requirements of wheeled vehicles, but weigh only one-tenth as much as conventional storage batteries supplying an equivalent amount of power.

New types of transmissions are on the threshold of universal use. In addition to speeding up operations and cutting down maintenance costs, these will reduce operator fatigue, thereby carrying a step further the social role of materials handling equipment, which has freed man from being a "beast of burden" and has made it possible for the worker of today to be liberated from debilitating tasks so that he can learn

specialized skills and engage in more productive activities.

During the period immediately ahead, rapid development of industrial lift trucks will take place to accommodate the requirements of jet air transport; missile carrying; industrialized agriculture; and the new dimensions of sea-borne and overland carriers. One of the most dramatic possibilities for the future is the application of anti-gravity theories to materials handling equipment in the space age.

These represent only suggestions of things to come. This is only a bare indication of the new motive powers, new forms of controls, and breath-taking new possibilities for use of materials handling equipment.

"The American materials handling equipment industry," Mr. Enzer concludes, "will stay far ahead of the rest of the world. By so doing, it will help America to stay ahead."

"The capacity of the materials handling equipment industry to meet the challenge of the times with something new has been its prime talent. It will use that talent to keep America on top!"



Johnson & Johnson's New Brunswick (N. J.) Eastern Surgical Dressings Plant is currently shipping an average of 15,500 cases daily. What's more, it is providing 80% next day service and loading 25 trucks per night.

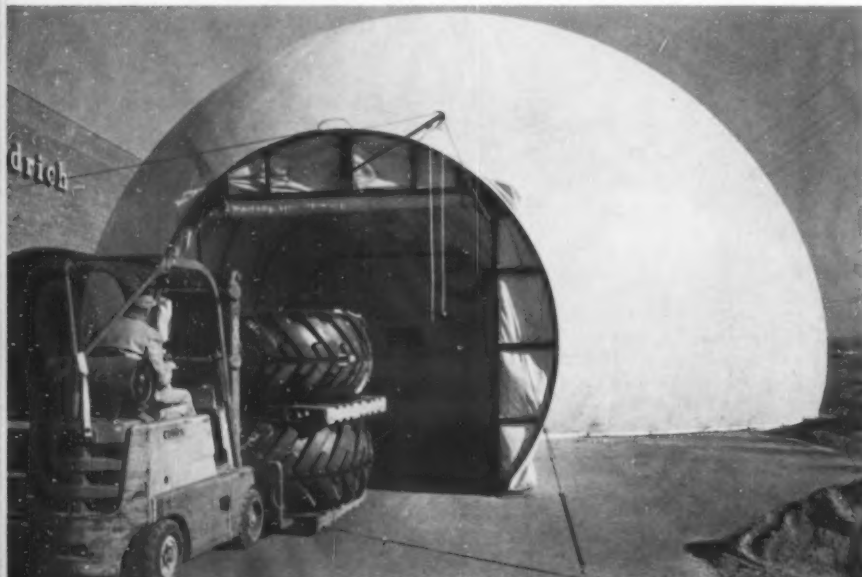
J&J's secret? A revolutionary, new mechanical picking system, which is working miracles.

Reports Traffic Manager Edward T. McGrath: "Our mechanical picking system really keeps things hopping!"

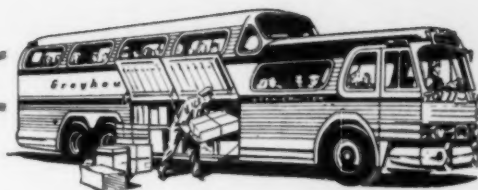
"Orders are expedited centrally through IBM punch cards, which are coded with the items and amounts ordered as well as their location in racks. Each card then sets off electrical impulses, which release the items onto a conveyor belt moving swiftly into the designated shipping platforms. Inventory and orders-in-process are flashed on a large electrical board, giving an accurate up-to-the-order count of all stock."

"Both receiving and manufacturing are joined with shipping in a total area of 700,000 square feet through an in-the-floor conveyor belt which drags carts carrying raw materials into manufacturing and finished products into shipping."

"This electronic materials flow system integrates four autonomous operating divisions without jam-ups, without error, and with the utmost economy and efficiency."



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From SHIPPING MANAGEMENT, 1940

Shipping area equipment has come a long way over the past quarter of a century. Back in 1936, when SHIPPING MANAGEMENT first appeared, gummed tape dispenser and related machinery manufacturers were proudly displaying "ultra-modern, automatic" hand-operated components. Today there are a whole host of electrified and truly automated machines from which to choose—most practically "thinking for themselves."

Scale manufacturers were likewise proud of the advances they had made in their equipment. "High precision" and "versatile" were two highly popular words they used in describing their products.

For their time, to be sure, scale manufacturers had done wonderfully well.

Updating the shipping 25 YEARS OF

But during the past 25 years, they've incorporated such added accuracy, dependability, and versatility in their units that a '36 scale, compared with a '61, looks and behaves like a relic out of the dim past.

Marking equipment manufacturers have likewise progressed at a brisk pace. Replacing the slow, complex, cumbersome, messy machines of yesterday are a variety of extremely effective devices. Easy-to-use, they have made marking as smooth, efficient, and economical an operation as any in distribution today.

Yet, despite these radical changes in shipping area equipment, one thing has not changed over the years. Today, as yesterday, too many companies are still utilizing their components improperly. They are still making the same errors their predecessors committed back in 1936.

Weighing is a perfect example.

A new survey among many of the nation's top weights and measures officials has revealed a list of "Seven Deadly Sins" against weighing accuracy, the Scale Manufacturers Association warns.

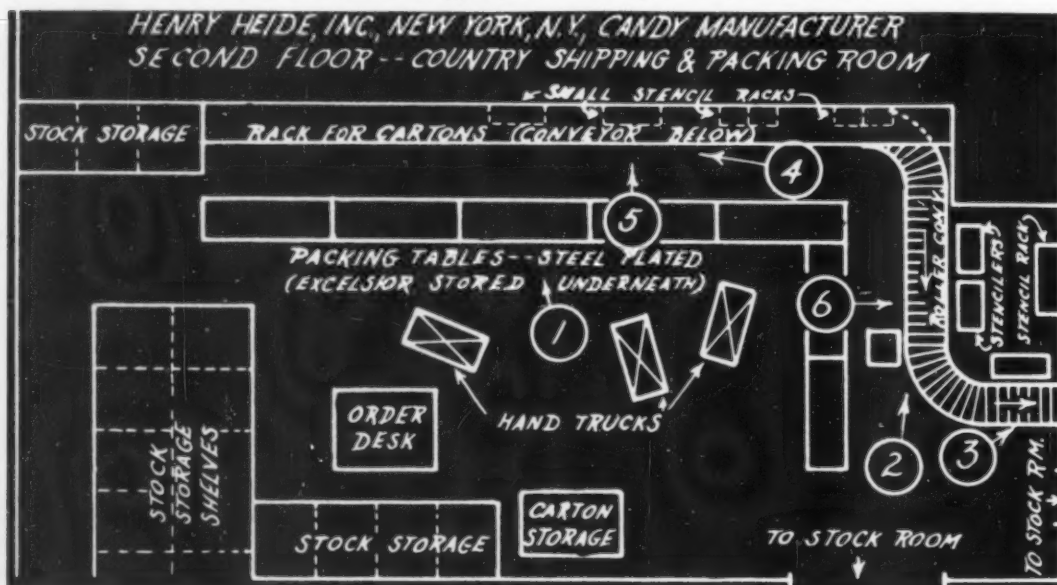
Conservative estimates put the cost of such "Seven Deadly Sins" at hundreds of millions of dollars annually. Furthermore, they involve all of American business and industry: manufacturers; ship- processors; and retailers.

What are these "Seven Deadly Sins"?

1. *Neglect and Maltreatment*—Abuse and neglect of scales has been cited by almost all of the weights and measures officials replying to the survey (which includes the top weights and measures officials of 25 states and cities).

As Rollin E. Meek, Head of Weights and Measures of the State of Indiana, puts it: "Neglect and maltreatment of scales contribute significantly to weighing errors. We have seen many illustrations of this—excessive moisture causing rust and corrosion of knife edges, bearing steels, levers, I-beams . . . also we have seen many illustrations of damage done by overloading scales . . . damage in the way of broken or prematurely worn parts."

Here was a model shipping room set-up in the late Thirties.



room:

PROGRESS & GROWTH

2. Improper Scale for Weighing Job

—Incorrect weights can result purely from using the wrong scale for a weighing job. Frequently scale users will weigh relatively small loads on large capacity scales—for example, to weigh less than 1,000 pounds on a 30,000 pound or larger vehicle scale is unsatisfactory and prohibited in most states, simply because the large components are not tuned for small load sensitivity.

Some scale people say a scale should never be used to weigh a load of less than 5% of the scale's full capacity. On the other hand, it is certainly a very bad practice to try to use a scale to weigh a load of more than the scale's capacity, but some people do. In addition to bad weight readings, such a practice can do serious and permanent damage to the scale.

3. Improper Installation—Many large capacity scales must be assembled at the site, and the very best scale—perfectly correct at the factory—will not function satisfactorily unless installed properly. The supervision of the pit, foundations, walls and approaches preparation and the installation of the scale parts should be by scale people, experienced as to the particular type of scale. Improper installations are a major headache for the scale owner.

Thomas C. Harris, Jr., Virginia Supervisor of Weights and Measures, says "poor installation, unsatisfactory foundation or approaches" contribute significantly to incorrect weights of vehicles and other heavy loads.

On this count, the National Conference on Weights and Measures (sponsored by the National Bureau of Standards), says: "... if the scale is not properly installed its weighing performance may be seriously inaccurate or may shortly become so, and it may deteriorate rapidly in service."

4. Lack of Level and Sturdy Supports for Small Scales—It was found in the weight survey that owners and operators very frequently do not provide the foundation or support of small portable scales to insure adequate strength, rigidity and performance—to avoid out-of-level weighing. This can be deadly as it guarantees bad weights, except for a few types designed to operate satisfactorily in out-of-level condition.



Scale: 1961 model.

5. Infrequent Testing, or Lack of Testing—Almost all top official sealers of scales found one of the chief causes of weighing errors to be lack of knowledge of whether the scale is right or wrong—due to infrequent testing or no testing at all. Everyone agreed that scales do go bad from use and abuse and should be tested, not only by weights and measures officials, but frequently by the owner or operator and by local service agencies.

Harry N. Duff, Colorado Supervisor, put it this way: "The big industrial firms usually know the value of correct scales to their profits and losses, and I think it is good judgment for all scale owners to assign some responsible employee to check their scales as often as humanly possible."

J. Fred True of Kansas endorses unofficial tests, by private service organizations and by the owner of small

scales, once a month or more frequently where extensively used—often enough to assure the owner the scales are right, in some cases once an hour.

6. Lack of Proper Maintenance—is the most extensively endorsed cause of scale errors, say the weights and measures executives. Although the scale owner fully appreciates the necessity of good car and truck maintenance, too frequently, the sealers said, he thinks if the new scale starts off right, after proper installation, it will continue to be right. It should be tested, cleaned and properly serviced by experienced scale mechanics on a regular basis, they agree.

George L. Johnson, Weights and Measures Director of Kentucky, says: "Our experience shows a lot of scales with significant weighing errors due to lack of proper maintenance service, in such industries as tobacco and others where commercial weights determine huge cash exchanges."

John F. Madden, New York State Director, pointed out that use, abuse and the collection of dirt and other forms of grit make it necessary that scales "should have maintenance attention periodically."

7. Carelessness and Poorly Trained Operators—This is very high among the most frequently cited causes of weight errors. W. A. Kerlin of California uses one word—"carelessness"—in putting his finger on a chief cause of weight errors. J. T. Kennedy of the District of Columbia sums up his thinking of weight mistakes thusly: "Scale not in balance, off zero, carelessness and use of un-instructed help."

Automatic carton sorter.



Handling resins in bulk with collapsible containers has saved the General Electric Company approximately \$20,000 over a two-year period.

Two years ago, GE turned to bulk handling of polyvinyl chloride—used by its wire and cable department—at the company's Bridgeport (Conn.) plant. The vinyl arrives in large rubber containers known as Sealdbins. Manufacturer: The United States Rubber Company. Taken off the truck by fork lift, it's emptied directly into the hopper. The empty bags are then collapsed and returned to the vendor.



Abandon — Formal proceedings involving a motor freight carrier or railroad application to the ICC for permission to give up all or part of a line.

Abandonment — Refusal to accept a shipment from a carrier because of extensive in transit damage.

Abatement — A discount allowed for damage, overcharges, or the prepayment of a bill.

Absorption — Assumption by a carrier of special charges of another carrier, usually without an increase in a shipper's rate.

Acceptance — Termination of liability through the receipt by the consignee of his shipment.

Accessorial service — Any service performed by the carrier in addition to his regular transportation services. Examples: loading, storage, and heating.

Act of God — A natural mishap, catastrophe, or disaster — which no reasonable human foresight can anticipate or stave off.

Act to Regulate Commerce — A Congressional act regulating the rates and rules of transport concerns engaged in handling, hauling, and processing interstate traffic. (More popular title: Interstate Commerce Act.)

Adjustment — Settlement of a claim, through the determination of the loss involved and the liability.

Adoption notice — Document required by the ICC when a carrier or individual assumes operational control of another carrier.

Advanced charge — Charges on a shipment which is advanced from Carrier X to Carrier Y. They are collected from the consignee by Carrier X, who advanced them.

Affiant — One who makes an affidavit.

Affidavit — A written statement sworn to before a Notary Public.

Agency Tariff — A tariff issued by a publishing agent for one or more transportation lines.

A shipper's guide to

Aggregated Shipments – Numerous shipments from different shippers to one consignee that are consolidated and treated as a single consignment.

Agreed Weight — The weight prescribed by agreement between carrier and shipper for goods shipped in certain packages or in a certain manner.

Allowance — (a) A sum granted as a reimbursement or repayment (b) a deduction from the gross weight or value of goods.

Aggregated shipments—Treating a number of consignments as one shipment because they all go to the same consignee.

Air waybill—A document prepared by the shipper or his agent defining the contract between the shipper and the carrier.

Alternative Tariff—A tariff containing two or more rates from and to the same points, on the same goods, with authority to use the one which produces the lowest charge.

Blanket Rate — (a) A rate applicable from and/or to a group of points. (b) A special rate applicable on several different articles in a single shipment.

29

Blanket Tariff Supplement — A single publication containing additions to or changes in two or more tariffs.

Blocking or bracing — Wood or metal supports to keep shipments in place in or on trailers.

Bona Fide — In good faith.

Bonded Warehouse — A warehouse owned by persons approved by the Treasury Department, and under bond or guarantee for the strict observance of the revenue laws; utilized for storing goods until duties are paid or goods are otherwise properly released.

Bond of Indemnity — An agreement made with a transportation line relieving it from liability for any action on its part for which it would otherwise be liable.

Break Bulk — To unload and distribute a portion or all of the contents of a truck.

Break Bulk Point — A point at which a portion or all of the contents of a truck are unloaded and distributed.

Brief — A written abstract of testimony and pleadings in a case and commentaries thereon.

Brokerage License — Authority granted by Interstate Commerce Commission to persons to engage in the business of arranging for transportation of persons or property in interstate commerce.

Bulk Freight — Freight not in packages or containers.

Burden of Proof — Proving disputed facts which are at issue in a proceeding; viz.—the Interstate Commerce Act provides that the burden of proof is upon the carriers to show that change in rates, rules, etc. are reasonable.

Caretaker — A person accompanying a shipment requiring special attention while enroute.

Cargo — The lading of a motor vehicle or aircraft.

Carrier — An individual, partnership or corporation engaged in the business of transporting goods or persons.

Carrier's Lien — Right of carrier to retain property which it has transported as security for charges.

Certificate of Public Convenience and Necessity — Authority or certificate granted by Interstate Commerce Commission to common carriers by motor

vehicle, water and freight forwarders to operate in interstate commerce.

Certificate of Weight — An authoritative statement of the weight of a shipment.

Citation of Decision — The reference made to the location of a decision or opinion rendered by a court or a commission. A citation such as I. C. C., would be to page—of volume—, the Interstate Commerce Commission's Report.

Circuitous Route — An extremely indirect route.

Claim — A demand made upon a transportation line for payment on account of a loss sustained through its negligence.

Claim Tracer — A request for advice concerning the status of a claim.

Classification (Freight) — A publication containing a list of articles and the classes to which they are assigned for the purpose of applying class rates, together with governing rules and regulations.

Classification Rating — The class to which an article is assigned for the purpose of applying class rates.

Class Rate — A rate applicable to a specified rating to which the article is assigned in the classification or exception to the classification.

Class Tariff — A tariff containing only class rates.

Class and Commodity Tariff — A tariff containing both class and commodity rates.

Clean Bill of Lading — A bill of lading receipted by carrier for merchandise in good condition (no damage, loss, etc., apparent), and which does not bear such notations as "Shipper's Load and Count," etc.

Clear Record — A record which shows that a shipment was handled without any loss or damage being sustained.

Cleat — A strip of wood or metal used to afford additional strength; to prevent warping; to hold in position.

Collector of Customs — A representative of the United States Treasury Department acting for the government in connection with foreign traffic.

Combination Rate — A rate made by combining two or more rates published in different tariffs.

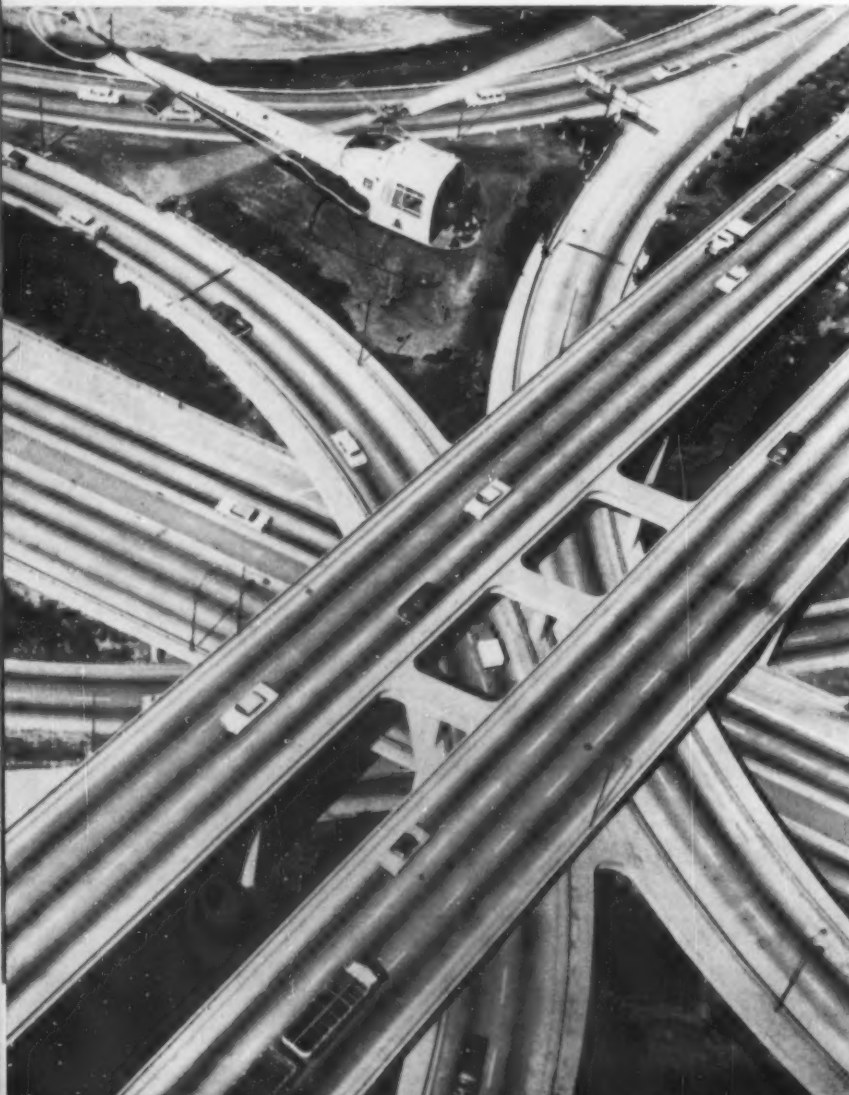
Combination Through Rate — A through rate made by combining two or more rates published in different tariffs.

Commodity — Any article of commerce. Goods shipped.

Commodity Rate — A rate applicable to an article described or named in the tariff containing the rate.

Commodity Tariff — A tariff containing only commodity rates.

Common Carrier — A transportation



line engaged in the business of handling persons or goods for compensation and for all persons impartially.

Common Law — That system of law which does not rest for its authority upon any express statute, but derives its force and authority from consent, custom and usage. It is supposed to be law brought to the United States from England.

Common Tariff — A tariff published by or for the account of two or more transportation lines as issuing carriers.

Competitive Point — A point at which two or more transportation lines compete for the movement of traffic.

Competitive Rate — A rate established by a transportation line to meet competition of another transportation line.

Competitive Traffic — Traffic in the movement of which two or more transportation lines compete.

Complainant — A person or party who makes a complaint.

Concealed Damage — A damage to the contents of a package which is in good order externally.

Concealed Loss — A loss from a package bearing no indication of having been opened.

Concentrate — To bring to a common center; to gather into one body or force.

Concentration Point — A point at which less than truckload shipments are brought together to be reforwarded as a truckload.

Concurrence (Tariff) — A document filed with the Interstate Commerce Commission by which a transportation line concurs in rates, etc., published in connection with its line by a publishing agent or another transportation line.

Connecting Carrier — A carrier which has a direct physical connection with another or forming a connecting link between two or more carriers.

Consignee — The person to whom articles are shipped.

Consignee Marks — A symbol placed on packages for export, generally consisting of a square, triangle, diamond, circle, cross, etc., with designated letter and/or numbers for the purpose of identification.

Consignor — The person by whom articles are shipped.

Constructive Mileage — An arbitrary mileage allowed to a transportation line in dividing joint rates, etc., on a mileage prorated (not the actual mileage).

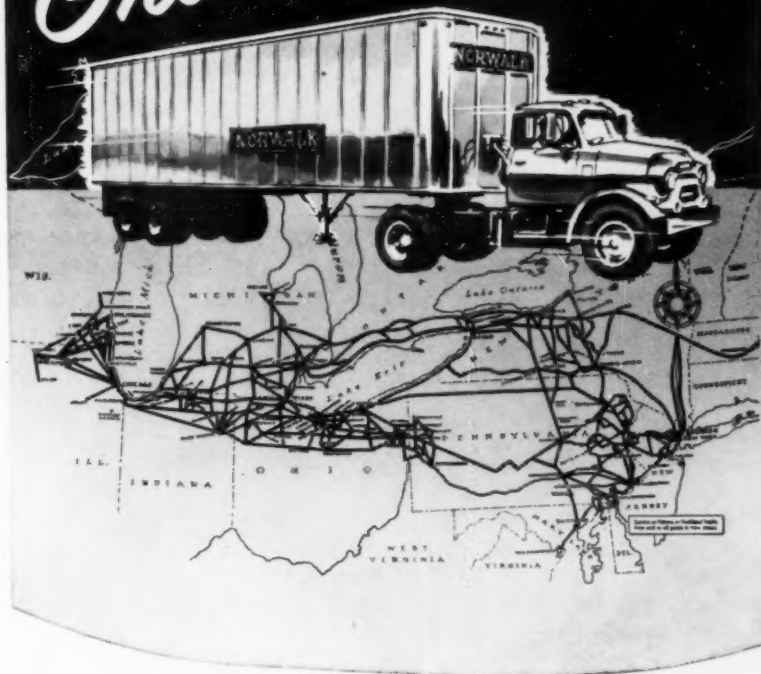
Container — Anything in which articles are packed.

Continuous Seals — A term denoting that the seals on a truck remained intact during the movement of the truck from point of origin to destination; or, if broken in transit, that it was done by proper authority and without op-

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portunity for loss to occur before new seals were applied.

Contract Carrier — By motor vehicle, any person not a common carrier who, under special and individual contracts or agreements, transports passengers or property by motor vehicle for compensation.

Conversion — An appropriation of freight by a carrier.

Cost, Insurance and Freight — Cost of goods, marine insurance and all transportation charges are paid to the foreign point of delivery.

Cubic Foot — 1728 Cubic inches.

Cubical Capacity — The carrying capacity of a truck according to measurement in cubic feet.

Defendant — A person or party answerable to a complaint.

Delivering Carrier — The transportation line by which a shipment is delivered to the consignee.

Delivery — The act of transferring possession, such as the transfer of property from consignor to carrier, one carrier to another or carrier to consignee.

Density — The weight of an article or container per cubic foot. The ratio of mass to bulk or volume. The number of tons carried over a line (or section of a line), in a unit of time.

Density of Traffic — The amount of traffic handled per mile within a given region.

Deposition — Written testimony given under oath.

Destination — The place to which a shipment is consigned.

Detention — A charge made for a vehicle held by or for consignor or consignee for loading or unloading, for forwarding directions or for any other purpose.

Differential Route — The line or lines which maintain differential rates.

Discrimination — The according of advantages to one shipper, locality, or commodity, which are not accorded to others under substantially similar circumstances and conditions.

Distance Rate — A rate that is applicable according to distance.

Diversion — A change made in the route of a shipment in transit.

Divert — To change the route of a shipment in transit.

Division — The apportionment by carriers of revenue received from joint traffic.

Dock Receipt — A receipt given for a shipment received or delivered at a pier or dock. When delivery of a foreign shipment is completed the dock receipt is surrendered to the transportation line and a bill of lading is issued.

Drayage — The charge made for haul-

ing freight on carts, drays or trucks.

Due Bill — Bill rendered by carrier for under-charges.

Dunnage — The material used to protect or support freight in or on trucks (bracings, false floors, meat racks, sawdust, etc.)

Duty — A tax levied by a government on the importation, exportation, or use and consumption of goods.

Elkins Act — A law providing penalties for violation of the Interstate Commerce Act.

Embargo — To resist or prohibit the acceptance and handling of traffic.

En Route — On the way.

Entry (Customs) — A statement of the kinds, quantities and values of goods imported together with duties due, if any, and declared before a Customs Office or other designated officer.

Estimated Weight — The weight specifically stated in tariffs for goods shipped in certain packages, or in a certain manner.

Et cetera — And other things; and so forth.

Examiner (I.C.C.) — A representative of the Interstate Commerce Commission vested with power to administer oaths, examine witnesses, take testimony, and otherwise conduct hearings of cases submitted to, or initiated by the Commission.

Exceptions to Classification — A publication containing classification ratings and rules different from the classification ratings and rules contained in a major classification.

Exchange Bill of Lading — A bill of lading issued in exchange for another Bill of Lading.

Exhibit — A document or physical object introduced in evidence.

Ex Parte — From only one side or party.

Expiration Notice — A notice in a tariff that all or some part of it will expire at a stated time.

Export — To send goods to a foreign country.

False Billing — Describing freight on shipping documents so as to misrepresent the actual contents or lading.

Finance Docket — The dockets of the Interstate Commerce Commission on which are listed for consideration and decision questions relating to financing, extension, abandonments, and consolidations of common carriers.

Fixed Charges — Charges which do not vary with an increase or decrease in traffic.

Free-Astray — A shipment miscarried or unloaded at the wrong terminal billed and forwarded to the correct terminal, free of charges, account of being astray, hence the term "Free-Astray".

Free Time — The period allowed the owner to accept delivery before storage charges begin to accrue.

Freight — Merchandise hauled by transportation lines.

Freight Bill —

Destination Freight Bill — A bill rendered by a transportation line to consignee, giving a description of the freight, the name of shipper, point of origin, weight, and amount of charges (if not prepaid).

Prepaid Freight Bill — A bill rendered by a transportation line to shipper, giving a description of the freight, the names of consignee and destination, weight, and amount of charges.

Freight charge — The charge assessed for transporting freight.

Freight Claim — A demand upon a carrier for the payment of Overcharge or Loss or Damage sustained by shipper or consignee.

Gateway — A point at which freight moving from one territory to another is interchanged between transportation lines.

Goods — Merchandise in transportation.

Grandfather Rights — The right under the Motor Carrier Act, of a common carrier by motor vehicle to a Certificate of Public Convenience and Necessity, as authority to operate over the route or routes, over which it, or its predecessor in interest, was in bona fide operation on July 1, 1935, without further proof.

Gross Ton — 2,240 pounds.

Gross Weight — (a) The weight of an article together with the weight of its container and the material used for packing (b) As applied to a truck, the weight of a truck together with the weight of its entire contents.

Hearing — The time and place where formal presentation of evidence in a case at issue is submitted to the Interstate Commerce Commission.

Heater Service — The protection of freezable traffic by heat.

Highway — The roads, highways, streets and ways in any State.

Icing Charge — A charge made for icing perishable freight.

Import — To receive goods from a foreign country.

Individual Tariff — A tariff issued by a transportation line individually.

Inflammable Liquids — Liquids that give off vapors which become combustible at a certain temperature.

Informal Complaint (Before I.C.C.) — (a) A complaint filed informally with the Interstate Commerce Commission for the purpose of obtaining its permission and authority to remedy the condition complained of, the complainant defendant being in agreement as to the merits of the complaint. (b) a

complaint filed informally with the Interstate Commerce Commission in a case which may be handled and likely disposed of by the Commission through correspondence with the parties interested.

Inherent Advantage — The inherent advantages of the motor carriers (over other modes of carriers) are, unusual flexibility, ability to run through city streets and to make delivery of goods and passengers at more convenient points in centers of congestion; relatively low first cost of initiating operations; ability to use public highways in contrast with expensive rights-of-way needed by rails; capacity for speed; superior, for short haul, to that of rail carriers; and ability because of its small units of transportation, to furnish more frequent service.

In Bond — Shipments moving under United States Customs Bond.

Initial Carrier — The transportation line to which a shipment is delivered by the shipper.

Initial Point — The point at which a shipment originates.

Inland Carrier — A transportation line which hauls export or import traffic between ports and inland points.

In re. — In the matter of.

Inter. — Between

Inter alia — Among other things

Interchange Points — A terminal at which freight in the course of transportation is delivered by one transportation line to another.

Interline — Between two or more transportation lines.

Interline Freight — Freight moving from point of origin to destination over the lines of two or more transportation lines.

Intermediate Carrier — A transportation line over which a shipment moves but on which neither the point of origin nor destination is located.

Intermediate Clause — A clause or basis contained in a tariff to provide for rates to a point not named therein, but which is intermediate to points that are named.

Intermediate Point — A point located between two other points specifically named.

Intrastate — Between States.

Interstate Commerce — Is commerce from one State or Territory of the United States, or the District of Columbia, to any other or from any place in the United States through a foreign country to any other place in the United States to or from a foreign but only insofar as such transportation takes place within the United States.

Interstate Commerce Act — An Act of Congress regulating the practices, rates and rules of transportation lines engaged in handling interstate traffic. (See Act to Regulate Commerce).

Interstate Commerce Commission — The Federal Body charged with the duty of enforcing acts of Congress affecting common carriers in interstate commerce.

Interstate Traffic — Traffic moving from a point in one State to a point in another State; between points in the same State, but passing within or through another State enroute; and between points in the United States and foreign countries.

Intervene — To take action and participate in proceedings that have been instituted by others.

Intra — Within

Intrastate — Within a State

Intrastate Traffic — Traffic having origin, destination and entire transportation within the same State.

Investigation and Suspension Docket — Docket of cases before Commission which deal with suspension of tariff, rates or rules.

Irregular Route Carrier — Within a specified and defined territory but not over specified routes between fixed termini.

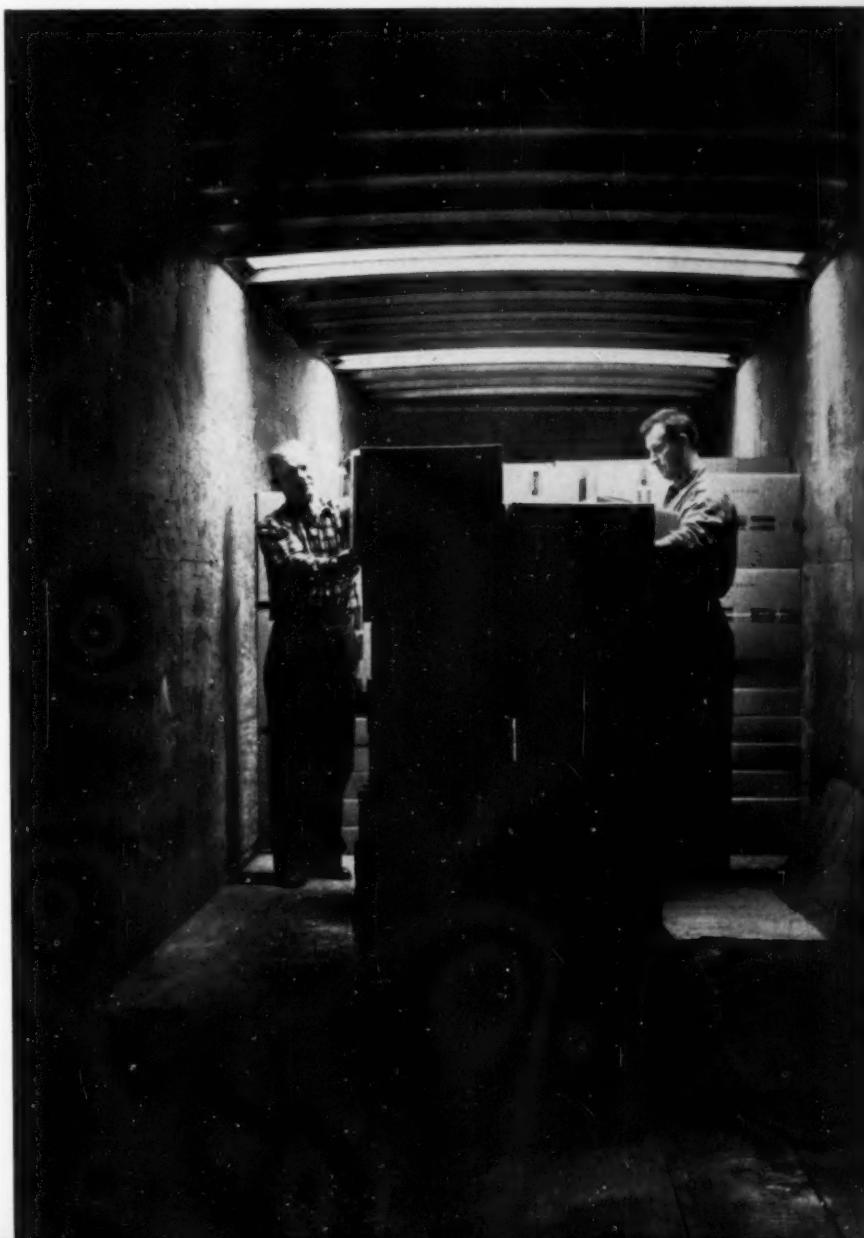
Issuing Carrier — The carrier by which a tariff is published or bill of lading or other documents are issued.

Jacket — A wood or fibre cover placed around such containers as cans and bottles.

Joint Boards — Boards consisting of members from interested States, created by Interstate Commerce Commission, under provisions of Section 205 of Motor Carrier Act.

Joint Combination Rate — A joint rate which is obtained by combining two or more factors published in the same tariff. (See Joint Through Rate).

Joint Rate — A rate applicable from a point located on one transportation line to a point located on another transportation line, made by agreement or arrangement between and published



in a single tariff under proper concurrence of all transportation lines over which the rate applies.

Joint Routes — Routes established by two or more carriers for the continuous through movement of traffic via their respective lines.

Joint Through Rate — A joint rate published as a unit to apply from a point on the line of one transportation line to a point on another. (See Joint Combination Rate).

Joint Traffic — Traffic moving between stations located on one transportation line and stations located on another transportation line.

Jurisdiction — The power of a court or other tribunal to entertain and decide any question viz.: the authority which such a body as the Interstate Commerce Commission has over rates, rules and regulations of carriers.

Knocked Down — A term denoting that an article is partially or entirely taken apart (not set up).

Known Damage — A damage discovered before or at the time of delivery of a shipment.

Known Loss — A loss discovered before or at the time of delivery of a shipment.

Lading — That which constitutes a load. The freight in a vehicle.

Lawful Rate — A rate constructed and published in accordance with the law and the rules prescribed by the Interstate Commerce Commission as to interstate traffic, or by State Commissions as to intrastate traffic.

Less than truckload — The quantity of freight less than that required for the application of a truckload rate.

Less than Truckload Rate — A rate applicable to a less than truckload shipment.

Lien — A legal claim upon goods for the satisfaction of some debt or duty.

Line-Haul — The movement of freight over the routes of a transportation line from one town or city to another town or city.

Liquidate — To settle the accounts and distribute the assets of a business in bringing it to an end.

Local Rate — A rate applying between stations located on the same transportation line.

Local Terminal — A terminal located only on one transportation line.

Local Tariff — A tariff containing rates applicable only between terminals located on the same transportation line.

Log Book — A book carried and kept by truck drivers containing daily records of hours, routes, etc. traveled.

Long ton — 2,240 pounds.

Loose — Not packed.

Mandamus — A writ issued by a court requiring that specific things be done.

Marks — Letters, numbers and/or characters placed on a package for purposes of identification.

Maximum Rate — The highest rate that may be charged.

Memorandum Bill of Lading — A duplicate copy of a bill of lading.

Mile — 5,280 feet.

Mileage — Distance in miles.

Mileage Rate — Rates applicable according to distance.

Mileage Tariff — A tariff containing rates applicable according to distance.

Minimum Charge — The least charge for which a shipment will be handled.

Minimum Rate — The lowest rate that may be charged.

Minimum Truckload Weight — The weight at which a shipment is handled at a truckload rate.

Mixed Truckload — A truckload of different articles in a single consignment.

Mixed Truckload Rates — A rate applicable to a truckload of different articles in a single consignment.

Motor Carrier Act, 1935 — An Act of Congress providing regulation of motor vehicle when for hire. Now Part II of the Interstate Commerce Act.

Motor Vehicle — Any vehicle, machine, tractor, trailer or semi-trailer propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property.

Mullen Test — A device to test the strength of fibreboard and similar material used as a substitute for wood in making shipping containers.

Negligence — Failure to exercise the degree of care the law demands.

Nested — Packed one within another.

Net Ton — 2,000 pounds

Net Weight — (a) The weight of an article clear of packing and container. (b) As applied to a truckload, the weight of the entire contents of the truck.

Non-Competitive Traffic — Traffic in the movement of which there is no competition between transportation lines.

Operating Expense — The cost incident to the actual handling of traffic.

Operating Ratio — The relation of operating expenses to gross receipt.

Overage — An excess of quantity billed.

Overcharge — To charge more than the proper amount according to the published rates of transportation lines.

Over Freight — Freight separated from its waybill and bearing no identifying marks. (See Astray and Excess Freight)

Packing List — A detailed specification as to goods packed.

Paper Rate — A published rate under which no traffic moves.

Participating Carrier (Tariff) — A transportation line which is a party, under concurrence, to a tariff issued by another transportation line or by a tariff publishing agent.

Per — (a) By (b) By means of (c) According to

Per Annum — By the year.

Per Centum — By the hundred.

Perishable Freight — Freight subject to decay or deterioration.

Permits — Authority or permit granted by Interstate Commerce Commission to contract carriers by Motor Vehicle to operate in interstate commerce.

Per Se — By and of itself.

Pick-up-or Delivery Allowance — An allowance made by carrier to consignee (or owner of goods) for delivery of freight to carriers terminal. Commonly paid for service rendered in lieu of pick-up service on carriers part.

An allowance made by carrier to consignee (or owner of goods) for picking up freight at carrier terminal, in lieu of delivery service by carrier.

Pleadings — The written allegations of what is affirmed or denied by the parties to a case before the Interstate Commerce Commission.

Point of Origin — The terminal at which a shipment is received by a transportation line from the shipper.

Port of Entry — A port at which foreign goods are admitted into the receiving country. Ports of Entry are officially designated by the government.

Power of Attorney — (a) Authority to do or forbear derived by one person from another. (b) Authority granted by a transportation line to an agent to issue tariffs, concurrences, etc., for its account.

Prejudice — A detriment to one shipper resulting from refusal by carrier to accord him the same treatment that it accords to another shipper under substantially similar circumstances and conditions.

Prepaid — A term denoting that transportation charges have been or are to be paid at the point of shipment.

Prepay — Pay before, or in advance.

Prima Facie — (a) at first view (b) A showing of facts sufficient to meet or overcome the burden of proof. When the party having that burden establishes a prima facie case the burden of proceedings shifts to his opponent.

Private Carrier — A transportation line not engaged in business as a general public employment.

Procedure (I.C.C.) — The rules and principles established for the conduct of cases before the Interstate Commerce Commission.

Prohibited Articles — Articles which will not be handled.

Pro Number — Pro is the abbreviation of the word progressive and is usually prefixed to an Agent's record numbers on freight bills, etc.

Proportional Rate — A rate specifically published to be used only as a factor in making a combination through rate. A rate published from New York to Chicago to apply only on traffic destined to points beyond Chicago would be a proportional rate.

Proportional Tariff — A tariff containing only proportional rates.

Pro Rata — In proportion.

Proposal — Procedure initiated by shippers or carriers with a rate publishing agency for changes in rates, charges or rules or regulations.

Public Service Commission — A name usually given to a State body having control of or regulating public utilities.

Publication — Making public in the manner required by the act, of tariffs, circulars, billing instructions, guide books, territorial directories, classifications, exception sheets, etc., which in any way affect the handling of traffic.

Publishing Agent — A person authorized by transportation lines to publish tariffs of rates, rules and regulations for their account.

Rate Breaking Point — Point on which rates are made or at which the rate is divided.

Rate Basis — A formula of the specific factors or elements which control the making of a rate.

Rate Scale — A table of rates graduated according to distance or zones.

Reasonableness (I.C.C.) — A requirement under common law and by statute that a rate shall not be higher than is necessary to reimburse the carrier for the actual cost of transporting the traffic and allow a fair profit.

Reconsignment — (a) Any change, other than a change in the route, made in a consignment before the arrival of the goods at their billed destination. (b) Any change made in a consignment after the arrival of the goods at their billed destination, when the change is accomplished under conditions which make it subject to the reconsignment rules and charges of the carrier. (See Diversion and Reshipment.)

Red Label — A label required on shipments of articles of an inflammable character.

Refrigeration — The protection of perishable freight against heat.

Refund — An amount returned to the consignor or consignee on account of excessive collected charges.

Regular Route Carrier — A carrier with rights over specified routes between fixed termini.

Related Points of Destination — A group of points the rates to which are made the same as or with relation to rates to other points in the group.



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Boxes and shipping containers of fibre or corrugated materials can be stitched or stapled faster, more dependably with free-flowing Mid-States Stitching

Wire. Never clogs stitching head because it has no raw edges; never flakes. Comes in 5, 10, 25 and 50-lb. coils.

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5-lb. Spools
Packed 10 Spools
per carton.



10-lb. Spools
Packed 6 spools
per carton.



25-lb. Spools
Packed 4 spools
per carton.

50-lb. Spools
Packed 20 spools
per pallet.



STITCHING MACHINES in a variety of models also available from Mid-States. Head sizes range from 12 to 36 in.; capacities up to 375-point (3/8") board; with Electric Solenoid Trip if desired. Lease or sale agreements available.

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Machines on lease or sale agreements.



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Related Points of Origin — A group of points the rates from which are made the same as or with relation to rates from other points in the group.

Released — Liability limited.

Released Rate — A rate applied subject to limitations with respect to the liability of carriers in case of loss of and/or damage to a shipment.

Reparation — The redress of an injury, or amends for a wrong which has been done.

Reshipment — Goods reshipped under conditions which do not make the act subject to the reconsignment rules and charges of the carrier.

Restricted Articles — Articles which are handled only under certain conditions.

Retroactive — The application of law, rule, tariff provision, etc., to a time before the law or rule became effective.

Route — (a) The course or direction that a shipment moves. (b) To designate the course or direction a shipment shall move. (c) The carrier or carriers with junction points over which a shipment moves.

Seal — A device for fastening or locking the doors of trucks.

Sectional Tariff — A tariff made in sections, each section containing different rates between the same points, with provisions for alternative application. (See Alternative Tariff).

Scale of Rates — Numerous rates adjusted with relation to each other.

Schedule (See Tariff) — A publication filed with the I.C.C. containing minimum charges, rules and regulations of contract operations of motor carriers.

Script Sheet — A form of statement, carried by truck driver showing essential details of all shipments loaded in his truck. A transcript of the lading.

Semi-Trailer — A vehicle without motive

power designed to be drawn by another vehicle and so constructed that some part of its weight and that of its load rest upon, or is carried by, a towing vehicle.

Set Up — A term denoting that an article is put together in its complete state—not knocked down.

Shipper's Load and Count — A term denoting that the contents of a truck were loaded and counted by the shipper and not checked or verified by the transportation line.

Shipping Order — Instructions of shippers to carrier for forwarding of goods; usually the triplicate copy of the bill of lading.

Shortage — A deficiency in quantity shipped.

Short Ton — 2,000 pounds.

Special Service Tariff — A tariff containing charges and/or rules governing switching, storage, demurrage, reconsignment, diversion, etc.

Split Pickup or Delivery — An accessorial service of picking up or delivering volume shipments at more than one place within confines of origin or destination point.

Standard Rate — A rate established via direct routes from one point to another in relation to which the rates via other routes between the same points are made. (See Differential Rate).

Standard Route — The line or lines which maintain standard rates.

State Toll — A charge made by a State for the use of its highways or other facilities for handling traffic.

Stated Refrigeration Charge — A fixed charge per truck per package, per 100 pounds or per ton of freight, for refrigeration from shipping point to destination or for a portion of the trip.

Statute of Limitation — A state law limiting the time in which claims or suits may be instituted.

Statutory Notice — The period of time required by law for giving notice of changes to be made in tariffs.

Stevedore — A person having charge of the loading and unloading of boats.

Stopping in Transit to finish Loading or Unloading — An accessorial service to stopping volume shipments to finish loading or partial unloading at points intermediate between origin and final destination when provided in appropriate tariffs.

Storage — A charge made on property stored.

Store Door Delivery — The movement of goods to the consignee's place of business, customarily applied to movement by truck.

Subpoena — A document requiring that the one to whom it is issued appear to give testimony.

Subrogate — To put in the place of another.

Supplement (Tariff) — A publication containing additions to and/or changes in a tariff.

Supra — A term denoting that a case or ruling has been previously cited in full.

Surcharge — A charge above the usual or customary charge.

Surtax — An additional or extra tax.

Tare Weight — (a) The weight of a container and the material used for packing. (b) As applied to a truckload, the weight of the truck exclusive of its contents.

Tariff — Motor Carrier. The publications published and filed with the I.C.C. containing rates, fares, rules and regulations of common carrier operations.

Tariff Circular (I.C.C.) — A circular issued by the Interstate Commerce Commission prescribing rules and regulations to be observed by transportation lines in publishing tariffs.

Tender — The offer of goods for transportation, or the offer to place trucks for loading or unloading.

Terminal Carrier — The transportation line making delivery of a shipment at its destination.

Terminal Charge — A charge made for services performed at terminals.

Through Rate — A rate applicable through from point of origin to destination. A through rate may be either a joint rate or a combination of two or more rates.

Tolerance — An allowance made for differences in weights due to variations in scales or inherent nature of goods.

Ton-Mile — (a) A unit used in comparing freight earnings or expenses—the amount earned from or the cost of, hauling a ton of freight one mile. (b) The movement of a ton of freight one mile.

(Continued on page 39)





MANUAL AND DIRECTORY ISSUE, 1961

CARTONS CAN'T TEAR or open in transit if you use this reinforced gummed sealing tape. Check 1 for info.

NATIONWIDE MOTOR FREIGHT SERVICE, with 160 terminals, linking major markets in 32 states. More information? Check 2.

GLOBE-GIRDLING AIR FREIGHT SERVICE is the specialty of this line—a pioneer in sky freight transportation. Check 3 for more details.

COAST-TO-COAST truck transportation. Ultra-modern terminals, tip-top equipment, super-efficient procedures. Facts? Check 4.

GREAT LAKES-TO-THE-GULF highway shipments get the royal treatment with this truck line. Check 5.

AIR CARGO PROBLEM? Let this carrier haul your shipment. Its specialty? Know-how-plus. Details? Check 6.

YOUR PACKAGE IS THERE IN HOURS! And it costs you less, when you ship via speedy, dependable bus package express. Interested? Check 7.

WHEN IT'S LTL . . . it's time to call in this truck line. Your littlest package gets the biggest service. Want proof? Check 8.

TOP QUALITY STITCHING WIRE is the specialty of this firm. Check 9 for additional information.

SUPER-STRONG SEALING TAPES to withstand the roughest treatment. No other form of closure offers so much for so little. Facts? Check 10.

SPEED SHIPPING ROOM PROCEDURES with these handy label gluers. Check 11.

TOLLWAY vehicles move faster, smoother, and more effectively. No delays, vital fuel savings, slashed in transit damage. Check 12.

TOP-FLIGHT PACKAGING, affording maximum protection to in transit shipments, is the specialty of this firm. Check 13.

MOTOR FREIGHT service at its very best. That's the promise of this over-the-highway carrier. For more information, check 14.

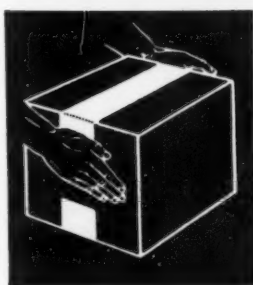
FASTEST FREIGHT FORWARDING from coast-to-coast. Sixty years of know-how in hauling and handling any shipment. Sound terrific? Check 15.

FIRST IN MICHIGAN, A LEADER IN THE U.S. This motor carrier will haul your goods speedily, dependably, and safely. Just check 16 for more details.

You can save more

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2 STRIP SEALING



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BOXLOX

(either asphaltic or non-asphaltic*)

- Faster than staples, wire stitching.
- Saves time, saves labor using regular tape dispensers. (Up to 60% on normal cartons, even more on larger ones.)
- Opens up new savings in automatic taping.



Both asphaltic and non-asphaltic BOX-LOX meet or exceed

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map including new
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**FROM THE PACIFIC NORTHWEST
TO TEXAS, this motor freight line of-
fers tip-top highway service. Check 17.**

**SMALL SHIPMENTS GET BIG SERV-
ICE when you turn them over to this
leading trucking company. Find out what
it can do for you. Check 18.**

**STEP UP YOUR LABEL PASTING
MORE THAN 50%. How? By using a
semi-automatic feed label paster. The
facts? You can get them by checking 19.**

**AUTOMATIC TACKERS can save you
money, save you time. 36 models and 80
staple sizes from which to choose. 20.**

**BREAK BOTTLENECKS in addressing
multiple shipments by typing stencil on
typewriter and then printing with special
applicator. Check 21.**

**TIP-TOP HIGHWAY shipping is yours
with this motor carrier. Check 22 for
more information.**

**FREE FROM PORT OF N. Y.—direc-
tories of air, truck, ship transportation
facilities. Check 23.**

**SAFE HANDLING, dependable service
are yours when you ship via this tip-top
motor freight carrier. Interested? Check
24.**

Key traffic-transportation— shipping abbreviations

A.A.R.—Against All Risks
Amdt.—Amendment
Amt.—Amount
A. Q.—Any Quantity
Arb.—Arbitrary
Arr.—(a) Arrive (b) Arrival
Art.—Article
A.T.A.—American Trucking Associations
Auth.—Authority
Av.—Average
A/W—Actual Weight

B.B.—Break Bulk
Bbl.—Barrel
Bdl.—Bundle
B.E.—(a) Bureau of Explosives (b) Bill
of Exchange
B.L. or B/L—Bill of Lading
Bls.—Bales
B.M.C.—Bureau of Motor Carriers (I.C.C.)
Bskt.—Basket
Bu.—Bushel
Bx.—Box

C. & S.M.F.A.—Central & Southern Motor
Freight Association
C.F.A.—(a) Central Freight Association
(b) Canadian Freight Association
Chg.—Charge
Cir.—Circular
Ck.—(a) Cask (b) Check
Class n.—Classification
C.L.—Connecting Line
c/o—Care of
C.O.D.—Cash (or collect) on delivery
Col.—Column
Coll.—Collect
Com.—Committee
Comb.—Combination
Com'l.—Commercial
Cor. L.—Corrosive Liquid
C.P.G.—Cotton Piece Goods
Cr.—(a) Credit (b) Creditor
C. R.—Carrier's Risk
C.S.M.F.B.—Central States Motor Freight
Bureau
Cts.—Cents
Cu. Ft.—(a) Cubic Foot (b) Cubic Feet
Cwt.—Hundredweight
Cy.—County
Cyl.—Cylinder

D B A—Doing Business As
Dely.—Delivery
Diam.—Diameter
Diff.—Differential
Disc.—Discount
Disp.—(a) Dispatch (b) Dispatcher
Dist.—(a) District (b) Distance
Div.—Division
Dk.—Dock
Do.—Ditto (same)
Dr.—Drums

E.B.—Eastbound
E.C.M.C.A.—Eastern Central Motor Car-
riers Association
e.g.—Exempli gratia (for example)
Eq.—Equal
Est.—Estimated
Est. Wt.—Estimated Weight
Etc.—Et cetera and other things; and
so forth
Ex.—(a) Exchange (b) Express (c) Example
Ex. B. L.—Exchange Bill of Lading
Excpt.—Exception
Exp.—Export

F. A.—(a) Free Astray (b) Freight Astray
F. B.—Freight Bill
F. O. B.—Free on Board
Frt.—Freight
Ft.—(a) Feet (b) Foot (c) Fort

Gal.—Gallon
Gen'l.—General
G. O.—General Office
Gr.—Gross
G. T.—Gross Ton

Hh. G.—Household Goods
Hgt.—Height
Hhd.—Hogshead

I. & S. Docket—Investigation and Suspen-
sion Docket
i. e.—Id est (that is)
I. b.—(a) Inbound (b) In bond
I. C. C.—Interstate Commerce Commis-
sion
I.C.C.F.F.—Designation used on tariffs
filed with Interstate Commerce Comm.
(Continued on page 40)

Traffic Terms

(Continued from page 36)

Tonnage — The number of tons of freight handled.

Trace — To follow the movement of a shipment.

Tracer — (a) A request upon a transportation line to trace a shipment for the purpose of expediting its movement or establishing delivery. (b) A request for an answer to a communication, or for advice concerning the status of a subject.

Traffic — Persons and property carried by transportation lines.

Trailer Interchange — Transfer of trailer and lading from one transportation line to another.

Transport — To move traffic from one place to another.

Transportation — The movement of traffic from one place to another.

Truck Mile Earnings — Determined by dividing the gross revenue of the lading by the actual miles operated.

Unclaimed Freight — Freight which has not been called for by the consignee or owner.

Undercharge — To charge less than the proper amount.

Undue Discrimination — Discrimination greater than is warranted by the circumstances.

Unit of Traffic — (a) The average number of tons of freight hauled one mile. (b) The average number of passengers hauled one mile.

Unlawful — Opposed to law.

Via — By the way of.

Volume Rate — A rate applicable in connection with a specified volume (weight) of freight.

Warehouse — A place for the reception and storage of goods.

Warehouse Receipt — A receipt given for goods placed in a warehouse (may be issued as a negotiable or non-negotiable document).

Warehouseman — A person who receives goods and merchandise to be stored in his warehouse for hire.

Warehousing — The storing of goods.

Weight Sheets — Itemized list furnished by shippers to weighing bureaus itemizing articles in each consignment.



Inspired by the fantastic growth of U. S. motor freight in recent years, highway shipping is currently surging forward to new importance as a key surface transport mode in Europe, as well. Contributing substantially to today's European trucking boom: the growth of Western Europe's highly successful Common Market.

While statistics are difficult to come by, the French estimate that their international truck traffic quadrupled between 1952 and 1956 and is still soaring. Their neighbor—and in many ways their rival—West Germany boasts that hers has leaped 18-fold between 1949 and 1957.

Even the British have gotten into the act. Taking a page from American "containerization" developments, special trailers roll between British cities and the Channel Ports. There, the containers are lifted from the trailers onto boats, shipped across the channel, once again loaded on trailers; and taken to their continental destinations.

To keep up with this increase, as well as the growth of other types of motor transportation, most European and Common Market nations have embarked on major road building programs. At the moment, 1,100 miles of superhighways are under construction.

Despite resistance to road construction on two fronts—money and the destruction of historic landmarks—Great Britain is moving forward unusually rapidly. It will spend upwards of the equivalent of \$246 million by 1962. This compares to \$182 million last year and an insignificant \$9 million in 1950.

Switzerland will build 400 miles of roads through its tortuous mountains by the mid-1970's.

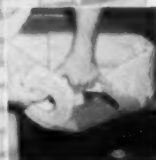
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that Needs
CUSHIONED PROTECTION?

You Need
EXTRA-FLEXIBLE
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Saves TIME
Saves COST
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... easily and
neatly in any
direction ...
any angle



molds

... to fit any
irregularly
shaped part or
product



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... contents
cushioned
against impact
dissipates
"shock waves"
for maximum
protection!



Meets Govt. Space and Post Office
regulations — available in rolls 6"
to 24" wide, sheets, special die cut
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SYSTEM

*"Faster than Rail...
Regular as Mail!"*

2 • Aikman Freight Lines • Pending I.C.C. Approval

DIRECT LINE — ONE COMPANY CONTROL ALL THE WAY!

**No Matter What
Common Carrier
Transportation
You Purchase, It
Can Cost You Less
To Distribute Your
Shipments To The
Carolinas Via
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when you rely on

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FASTEST TO BOTH COASTS



PROMPT DAILY PICK-UP
AND DELIVERY



Over 62 years of de-
pendable ON-TIME
Freight Forwarding
Service.

We welcome your
inquiry.

LIFSCHULTZ
FAST FREIGHT

Abbreviations

(Continued from page 38)

I.C.C. Rep.—Interstate Commerce Com-
mission Reports
I. L.—Interline
I.M.R. & T. B.—Indiana Motor Rate
and Tariff Bureau
Imp.—Import
Inc.—(a) Inclusive (b) Incorporated
Inf. L.—Inflammable Liquid
Inf. S.—Inflammable Solid
Ins.—Insurance
Inst.—Instant (this month)
Inter.—Interstate
Intra.—Intrastate
Int. Rev.—Internal Revenue
Inv.—Invoice
I. R. D.—Internal Revenue Department
It.—Item
Jct.—Junction
Jt.—Joint
K. D.—Knocked down
K. D. F.—Knocked Down Flat
L. & D.—Loss and Damage
Liq.—(a) Liquor (b) Liquid
Lg. Tn.—Long ton (2240 lbs.)
Ltd.—Limited
Ltge.—Lighterage
L.T.L.—Less than truckload
M. A. C.—Middle Atlantic Conference
Max.—Maximum
Mdse.—Merchandise
Memo.—Memorandum
MF-I.C.C.—Designation used on tariffs
and schedules filed with Interstate Com-
merce Commission by carriers subject
to Motor Carrier Act.
Min.—Minimum
M. C.—Minimum Charge
Min. Wt.—Minimum Weight

Misc.—Miscellaneous
M. O.—Money Order
Mt.—Mount
Mty.—Empty
M.W.M.F.B.—Middlewest Motor Freight
Bureau
NASMCC—National Association of Ship-
per-Motor Carrier Conferences
N. A. C.—North Atlantic Coast
N. B.—Northbound
N.E.M.R.B.—New England Motor Rate
Bureau
N.M.F.C.—National Motor Freight Clas-
sification
No.—Number
N.O.I.—Not otherwise indexed
N.O.I.B.N.—Not otherwise indexed by
name
Nos.—Numbers
N.O.S.—Not otherwise specified
Nstd.—Nested
N. T.—Net ton
Ntfy.—Notify
O/C—Overcharge
O/N—Order Notify
O.R.—Owner's risk
O. S. & D.—Over Short and Damage
O/T—Other Than
OT—Open Top Trailer
Oz.—Ounce
Par.—Paragraph
Pcs.—Pieces
P. D.—Property Damage
Per An.—Per Annum
Per Ct. or Per Cent.—Per Centum
Pfd.—Preferred
P.H.P.—Packing house products
Pkg.—Package
Pl.—(a) Place (b) Public Liability
P. O.—Post Office
P.P.—(a) Prepay (b) Prepaid
pp.—Pages
Pro.—Progressive

Marking

(Continued from page 27)

Now, how about marking? In 1936, the "battle cry" of freight loss experts was: "Mark your shipments clearly, cor-
rectly, and durably. Otherwise, they
may well go astray."

Today, the situation is the same. De-
spite repeated warnings, industry is still
losing an average of \$25 million per
year on lost consignments, due to im-
proper marking.

Shippers are advised to know, under-
stand, and follow the marking rules of
the carriers.

States National Motor Freight Classi-
fication Rule 6, Marking Shipments:

Sec. 1. Each package or piece of
each shipment must be plainly and
durably marked, stenciled or tagged,
by shipper, showing name and ad-
dress of shipper, and only one con-
signee, at one address at one destina-
tion. When consigned to a place
which there are two or more of the
same name in the same state, the
name of the county must be shown.

Sec. 2. Marks must be compared
with shipping order or bill of lading,
and corrections, if necessary, made
by shipper before receipt is signed.

Sec. 3. Packages containing fragile
articles in glass or earthenware must
be marked **FRAGILE—HANDLE
WITH CARE**, or with similar precau-
tionary marks.

Sec. 4. Each package or piece in
a shipment consigned "To Order" or
"C.O.D." must be plainly so marked,
and further must be marked with an

identifying symbol or number which
must be shown on shipping order and
bill of lading.

Sec. 5. Shipments consigned for
"Export" through a broker or agent
must be marked with the name and
address of the broker or agent.

Sec. 6. A shipment, received com-
plete at one time for transportation
in one vehicle where the quantity

(Continued on page 42)

ASSOCIATED TRUCK LINES, INC.
GRAND RAPIDS
MICHIGAN
"FIRST IN MICHIGAN"
AND CHICAGO -

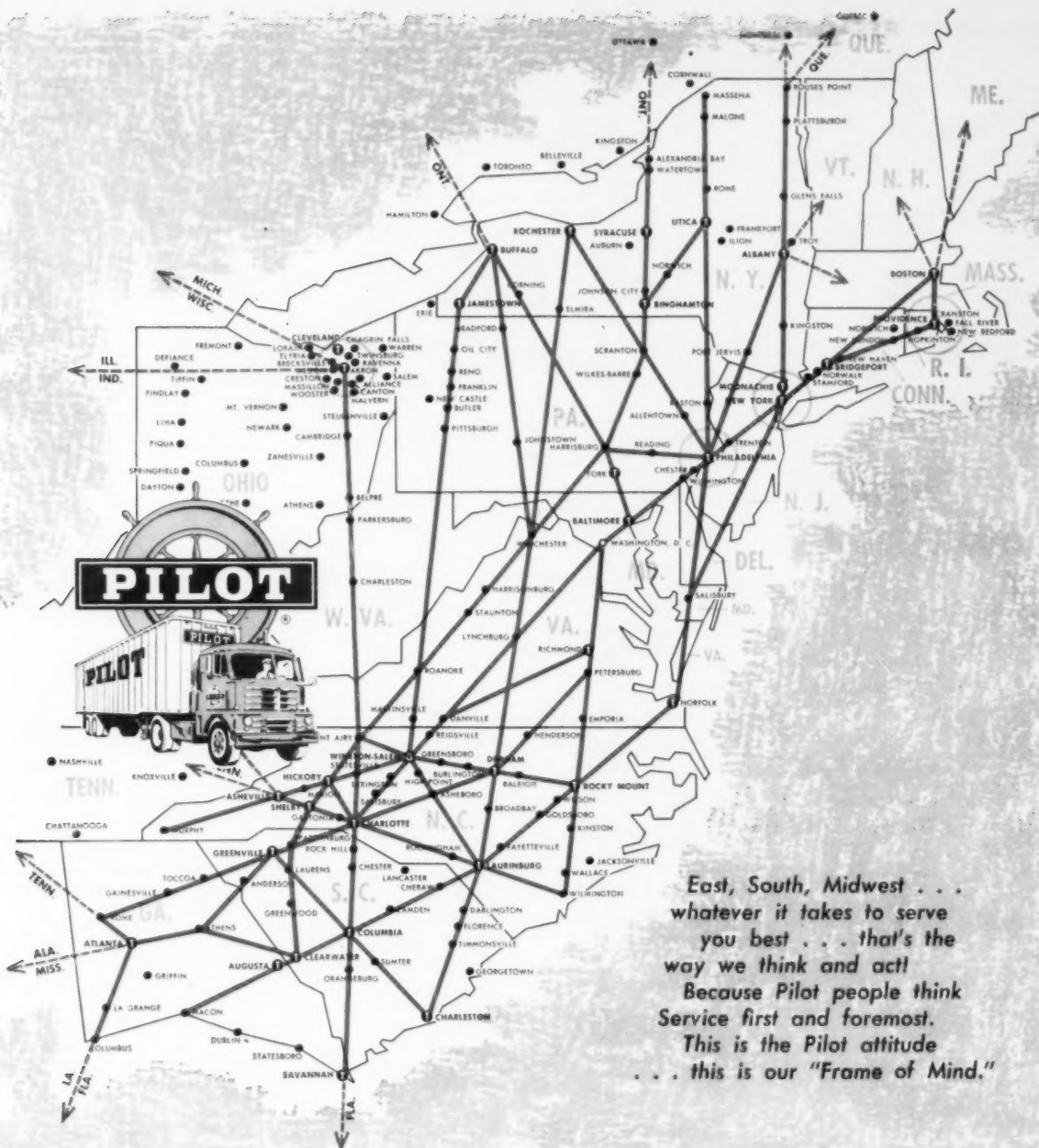
ATL TERMINALS
ANN ARBOR
BATTLE CREEK
BAY CITY
BENTON HARBOR
CADILLAC
CHICAGO
CINCINNATI
CLEVELAND
COLUMBUS*
DAYTON
DETROIT
FLINT
FORT WAYNE*
GRAND HAVEN
GRAND RAPIDS
HAMMOND
HOLLAND
INDIANAPOLIS*
IONIA
JACKSON
KALAMAZOO
LANSING
LINCOLN*
LUDINGTON
MANISTEE
MUSKEGON

NILES
PONTIAC
Piquette, OHIO*
PORT HURON
SAGINAW
ST. JOSEPH
SOUTH BEND
STURGIS
TOLEDO
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AND
INDIANA***

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operated under Temporary Authority granted by the
Interstate Commerce Commission.



East, South, Midwest . . .
 whatever it takes to serve
 you best . . . that's the
 way we think and act!
 Because Pilot people think
 Service first and foremost.
 This is the Pilot attitude
 . . . this is our "Frame of Mind."

PILOT

**SERVICE
 IS OUR
 FRAME
 OF MIND.**



Pilot Freight Carriers
 INCORPORATED
 GENERAL OFFICES — WINSTON-SALEM, N. C.

A shipper's guide to major traffic & transportation organizations

Airline Ground Transportation Association—501 Madison Avenue, New York 22, New York.

Air Cargo Sales Club—c/o SHIPPING MANAGEMENT, 425 Park Avenue South, New York 16, N. Y.

Air Freight Forwarders Association—1317 F Street, N.W., Washington 4, D. C.

Air Transport Association of America—1000 Connecticut Avenue, N.W., Washington 6, D. C.

American Association of Motor Vehicle Administrators—504 Hill Building, Washington 6, D. C.

American Association of Port Authorities—601 Southern Building, Washington 1, D. C.

American Bureau of Shipping—45 Broad Street, New York 4, New York.

American Institute of Food Distribution—420 Lexington Avenue, New York 17, New York.

American Management Association—1515 Broadway, New York 36, New York.

American Material Handling Society—3737 Upton Avenue, Toledo, Ohio.

American Road Builders' Association—World Center Building, Washington, D. C.

American Merchant Marine Institute—11 Broadway, New York 4, New York.

American Trucking Associations—1616

"P" Street, N.W., Washington 6, D. C.

American Warehousemen's Association—222 West Adams Street, Chicago 6, Illinois.

American Waterways Operators—1025 Connecticut Avenue, Washington 6, D. C.

Associated Traffic Clubs of America—815 Washington Building, Washington 5, D. C.

Association of I.C.C. Practitioners—1112 I.C.C. Building, Washington 25, D. C.

Chain Store Traffic League—114 Fifth Avenue, New York 11, New York. Contact: A. G. Milligan, President.

Chamber of Commerce of the United States—1615 H Street, N.W., Washington 6, D. C.

Common Carrier Conference, Irregular Route—1424 Sixteenth Street, N.W., Washington 6, D. C.

Customs Brokers & Forwarders Association of America—8-10 Bridge Street, New York 4, New York.

Export Managers Club of New York—93 Worth Street, New York 13, N. Y.

Foreign Commerce Club of New York—30 Broad Street, New York 4, New York.

Freight Forwarders Institute—1111 E Street, N.W., Washington 4, D. C.

Highway Research Board of the National Academy of Sciences—2101 Constitution Avenue, Washington 25, D. C.

Household Goods Carriers Bureau—2000 P Street, N.W., Washington, D. C.

Industrial Truck Association—1 Gateway Center, Pittsburgh 22, Pa.

International Air Transport Association—1060 University Street, Montreal, Quebec, Canada.

Local Cartage National Conference—1424 Sixteenth Street, N.W., Washington 6, D. C.

Maritime Association of the Port of New York—80 Broad Street, New York 4, New York.

Marking Device Association—912 Chicago Avenue, Evanston, Illinois.

Material Handling Institute—1 Gateway Center, Pittsburgh 22, Pa.

Movers Conference of America—1424 Sixteenth Street, N.W., Washington 6, D. C.

Movers & Warehousemen's Association of America—Warner Building, N.W., Washington 4, D. C.

National Association of Scale Manufacturers—1 Thomas Circle, N.W., Washington 5, D. C.

National Automobile Transporters Association—1000 Connecticut Avenue, North West, Washington 6, D. C.

National Defense Transportation Association—1001 Connecticut Avenue, N.W., Washington 6, D. C.

National Highway Users Conference—966 National Press Building, Washington 4, D. C.

National Industrial Traffic League—711 14th Street, N.W., Washington 5, D. C.

National Safety Council—425 North Michigan Avenue, Chicago 11, Illinois.

National Small Shipments Traffic Conference—919-18th Street, North West, Washington 6, D. C.

National Wooden Pallet Manufacturers Association—609 Barr Building, Washington 6, D. C.

Operations Council, American Trucking Associations—1616 "P" Street, N.W., Washington 6, D. C.

Private Truck Council of America, Incorporated—Sheraton Building Washington 5, D. C.

Transportation Association of America—6 North Michigan Avenue, Chicago 2, Illinois.

Truck-Trailer Manufacturers Association—1426 G Street, N.W., Washington 5, D. C.

MOTOR FREIGHT CONFERENCES:

All of the following trucking units may be contacted at ATA headquarters in Washington D. C.

National Automobile Transporters Association; Common Carriers—Irrregular Route Conference Contract Carriers Conference; Film Carriers Conference; Local Cartage National Conference; Movers Conference of America; National Tank Truck Carriers, Incorporated; Oilfield Haulers Conference; Private Carriers Conference; Regular Route Common Carrier Conference; Heavy Specialized Carriers Conference.

FEDERAL AGENCIES OF IMPORTANCE TO TMS:

Department of Commerce—14th and Constitution Avenue, Washington 25, D. C. Contact: Under-secretary for transportation.

Bureau of Public Roads—General Services Building, Washington 25, D. C. Contact: Federal Highway Commissioner.

Federal Civil Defense Administration—Battle Creek, Michigan.

Military Traffic Management Agency, Department of Defense—The Pentagon, Arlington, Virginia.

Office of Defense Mobilization—Executive Office Building, 17th and Pennsylvania Avenue, North West, Washington, D. C.

Post Office Department, Bureau of Transportation—Post Office Building, Washington 25, D. C.

Marking

(Continued from page 40)

such shipment is sufficient to occupy the major capacity of such vehicle, need not be marked as to every piece in such shipment, if every piece is of easy identification as belonging to such shipment without the possibility of being confused with other freight.

Buyers' Guide & Directory

Equipment • Supplies • Services

This section is published as a Guide and not as an exhaustive Directory. It does not contain the names of **all** firms supplying transportation services, shipping and packaging supplies, materials handling equipment, etc., but it does contain the names of firms that can meet all your needs. Cross-indexing has been thorough, to facilitate finding of the items listed.

Advertisers are listed in Bold Face Type. For more detailed information on any product, refer to the advertisements of those firms. See Advertiser's Index on Page 52

A

ADDRESSING EQUIPMENT

Addressograph-Multigraph Corp., Cleveland, Ohio.
Elliott Addressing Machine Co., Cambridge, Mass.
Multistamp, Inc., Norfolk, Virginia.
Weber Addressing Machine Co., Mt. Prospect, Ill.

ADHESIVES

Adhesive Products Corp., New York, N. Y.
American Cyanamid Co., Plastics and Resins Division, New York, N. Y.
Angier Adhesives, Interchemical Corp. Division, Cambridge, Mass.
Arabol Manufacturing Co., New York, N. Y.
Adhesive Division, Armour & Co., Chicago, Ill.
Bakelite Co., Union Carbide Corp. Division, New York, N. Y.
Barrett Division, Allied Chemical & Dye Corp., New York, N. Y.
Borden Company, New York, N. Y.
du Pont Co., Wilmington, Del.
Goodyear Tire & Rubber Co., Chemical Division, Akron, Ohio.
Johns-Manville, Dutch Brand Division, Chicago, Ill.
Minnesota Mining & Manufacturing Co., Adhesives & Coatings Division, Detroit, Mich.
Monsanto Chemical Co., Plastics Division, Springfield, Mass.
Paisley Products, Inc., Division of Morningstar, Nicol, Inc., New York, N. Y.
Swift & Co., Adhesives Division, Chicago, Ill.

AIR CARGO CARRIERS

Aerolineas Argentinas, New York 22, N. Y.
Aeronaves de Mexico, Miami, Fla.
Aerovias Sud Americana, Miami Springs, Fla.
Air France, New York 22, N. Y.
Air-India International, New York, N. Y.
Alaska Airlines, Seattle 1, Wash.
Alaska Coastal Airlines, Juneau, Alaska
Alitalia, New York 19, N. Y.
Allegheny Airlines, Washington National Airport
Aloha Airlines, Honolulu Internat'l Airport
American Airlines, New York, N. Y.
Avianca, New York, N. Y.
Bonanza Air Lines, Las Vegas, Nev.
Braniff International Airways, Dallas 35, Tex.
British European Airways, Ruislip, England
British Overseas Airways Corporation, New York 36, N. Y.
Canadian Pacific Air Lines, Vancouver Airport, B. C.
Central Airlines, Ft. Worth, Tex.
Civil Air Transport, Taipei, Formosa
Continental Airlines, Denver, Colo.
Delta Air Lines, Atlanta Municipal Airport, Ga.
Eastern Airlines, New York, N. Y.
Ellis Air Lines, Ketchikan, Alaska
El Al Israel Air Lines, New York, N. Y.
Ethiopian Airlines, New York, N. Y.
Flying Tiger Line, Burbank, Calif.
Frontier Airlines, Denver, Colo.
Guest Aerovias Mexico, Miami, Fla.
Hawaiian Airlines, Honolulu 1, Hawaii

Iberia, New York, N. Y.
Icelandic Airlines, New York, N. Y.
Ini Airlines, Miami Internat'l Airport, Fla.
Irish International Air Lines, New York, N. Y.
Japan Air Lines, San Francisco, Calif.
KLM Royal Dutch Airlines, New York, N. Y.
Lanica, (Lineas Aereas De Nicaragua) Miami Internat'l Airport, Fla.
Linea Aeropostal Venezolana, New York, N. Y.
Lufthansa German Airlines, New York, N. Y.
Mackey Airlines, Ft. Lauderdale, Fla.
Mohawk Airlines, Utica, N. Y.
National Airlines, Miami Internat'l Airport, Fla.
New York Airways (Helicopter Service), New York, N. Y.
North Central Airlines, Minneapolis 50, Minn.
Northeast Airlines, Boston, Mass.
Northern Consolidated Airlines, Anchorage, Alaska
Northwest Orient Airlines, St. Paul, Minn.
Ozark Air Lines, St. Louis, Mo.
Pacific Airlines, San Francisco Internat'l Airport, Cal.
Pacific Northern Airlines, Seattle, Wash.
Pan American Grace Airways, New York, N. Y.
Pan American World Airways, New York, N. Y.
Piedmont Airlines, Winston Salem, N. C.
Qantas Empire Airways, San Francisco, Cal.
Ransa, New York, N. Y.
Real Airlines, Miami, Fla.
Resort Airlines, Alameda, Calif.
Riddle Airlines, Miami Internat'l Airport, Fla.
Sabena Belgian World Airlines, New York, N. Y.
SAM Airlines (Sociedad Aeronautica Medilin), Miami, Fla.
Scandinavian Airlines System, Jamaica, N. Y.
Seaboard World Airlines, New York, N. Y.
Slick Airways, Burbank, Calif.
Swissair, New York, N. Y.
TACA International Airlines, S.A., New Orleans, La.
TAN Airlines, S.A., Miami International Airport, Fla.
Trans-Canada Air Lines, Montreal, Quebec, Canada
Trans Caribbean Airways, New York, N. Y.
Trans-Texas Airways, Houston, Tex.
Trans World Airlines, New York, N. Y.
TSA-Transcontinental, New York, N. Y.
UAT French Airlines, Paris, France
United Air Lines, Chicago, Ill.

ANCHOR PLATES, NAILS, ETC.

Gerrard & Co., A. J., Melrose Park, Ill.
Stanley Works, New Britain, Conn.

ANTI-SKID PLATES

Evans Products Co., Plymouth, Mich.
Northern Metal Products Co., Chicago, Ill.

B

BAGS, COTTON LINED PAPER & CLOTH

Feder Industries, Inc., New York, N. Y.
Ohio Bag Corp., New York, N. Y.
U.S. Envelope Co., Springfield, Mass.

BAGS, GLASSINE & WAXED

Bemis Bros. Bag Co., St. Louis, Mo.
Central States Paper & Bag Co., St. Louis, Mo.
Continental Can Co., Shellmar-Betner Division, Mt. Vernon, Ohio.
Crown Zellerbach Corp., Western-Waxide Division, San Leandro, Cal.
Orchard Paper Co., St. Louis, Mo.
Thilmany Pulp & Paper Co., Kaukauna, Wis.

BAGS, MULTIWALL

Bemis Bros. Bag Co., St. Louis, Mo.
Continental Can Co., Shellmar-Betner Division, Mt. Vernon, Ohio.
Crown Zellerbach Corp., San Francisco, Cal.
Gilman Paper Co., New York, N. Y.
National Container Corp., New York, N. Y.
Olin Mathieson Chemical Corp., West Monroe, La.
Owens-Illinois Glass Co., Toledo, Ohio.
St. Regis Paper Co., New York, N. Y.
Union Bag-Camp Paper Corp., New York, N. Y.

BAGS, PADDED SHIPPING

Feder Industries, Inc., New York, N. Y.
Hinde & Dauch, Sandusky, Ohio.
Jiffy Manufacturing Co., Hillside, N. J.
Union Bag-Camp Paper Corp., New York, N. Y.

BAGS, PAPER

American Sisalkraft Corp., Attleboro, Mass.
Bemis Bros. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
Hudson Pulp & Paper Co., New York, N. Y.
Thilmany Pulp & Paper Co., Kaukauna, Wis.

BARRIER MATERIALS

American Sisalkraft Corp., Attleboro, Mass.
Bemis Bros. Bag Co., St. Louis, Mo.
Celotex Corp., Chicago, Ill.
Crown Zellerbach Corp., Western-Waxide Division, San Leandro, Cal.
Gilman Paper Co., New York, N. Y.
Ludlow Papers, Needham, Mass.
Thilmany Pulp & Paper Co., Kaukauna, Wis.
Wraps, Inc., New York, N. Y.

BARRELS, METAL

Continental Can Co., Metal Group, New York, N. Y.
Jones & Laughlin Steel Corp., Container Division, New York, N. Y.
Reynolds Metals Co., Louisville, Kentucky.
Rheem Manufacturing Co., South Gate, Cal.
Vulcan Steel Container Co., Birmingham, Ala.

BELTING, CONVEYORS & ELEVATORS (RUBBER)

Link Belt Co., Chicago, Ill.
U.S. Rubber Co., New York, N. Y.

BILLS OF LADING

Garvin Press, Inc., New Rochelle, N. Y.
National Cash Register Co., Dayton, Ohio.

BOX CUSHIONING, PADDING, WADDING, FORMED MATERIALS

American Excelsior Corp., Chicago, Ill.
Armour & Co., Cushioning Products Division, Alliance, Ohio.
Celotex Corp., Chicago, Ill.
Chippewa Paper Products Co., Chicago, Ill.
Johns-Manville, Dutch Brand Division, Chicago, Ill.
Kimberly-Clark Corp., Neenah, Wis.
Koppers Co., Chemical Division, Pittsburgh, Pa.
Ludlow Papers Inc., Needham, Mass.
Personal Products Corp., Miltown, N. J.
Stone Container Corp., Chicago, Ill.
U.S. Rubber Co., New York, N. Y.

BOX NAILING EQUIPMENT

Acme Staple Co., Camden, N. J.
Auto-Nailer Co., Atlanta, Ga.
Bostitch, Inc., East Greenwich, R. I.
International Staple & Machine Co., Herrin, Ill.

BOX REINFORCING MATERIAL (See Strapping, Steel & Accessories.)**BOX TESTING & DEVELOPMENT (See Laboratories, Container Testing)****BOXES, CORRUGATED & SOLID FIBRE**

Chicago Paper Box Co., Chicago, Ill.
Chippewa Paper Products Co., Chicago, Ill.
Container Corp. of America, Chicago, Ill.
Continental Box Co., Houston, Tex.
Continental Can Co., Gair Fibre Drum & Corrugated Box Division, New York, N. Y.
Gaylord Container Corp., Division of Crown Zellerbach Corp., St. Louis, Mo.
General Box Co., Des Plaines, Ill.
Hinde & Dauch, Sandusky, Ohio.
National Container Corp., New York, N. Y.
Olin Mathieson Chemical Corp., Forest Products Division, West Monroe, La.
Owens-Illinois Glass Co., Toledo, Ohio.
St. Regis Container Corp., Cleveland, Ohio.
Stone Container Corp., Chicago, Ill.
Tri-Wall Containers, Inc., New York, N. Y.
Waldorf Paper Products, St. Paul, Minn.

BOXES, FORMED ALUMINUM

Kaiser Aluminum & Chemical Corp., Oakland, Cal.
Revere Copper & Brass, Inc., New York, N. Y.
Reynolds Metals Co., Louisville, Kentucky.

BOXES, SHIPPING, CORRUGATED

Chippewa Paper Products Co., Chicago, Ill.
Container Corp. of America, Chicago, Ill.
Continental Box Co., Houston, Tex.
Continental Can Co., Gair Fibre Drum & Corrugated Box Division, New York, N. Y.
Crown Zellerbach Corporation, San Francisco, Cal.
Gaylord Container Corp., Division of Crown Zellerbach Corp., St. Louis, Mo.
Hinde & Dauch, Sandusky, Ohio.
National Container Corp., New York, N. Y.
Olin Mathieson Chemical Corp., Forest Products Division, West Monroe, La.
Owens-Illinois Glass Co., Toledo, Ohio.
St. Regis Container Corp., Cleveland, Ohio.
Stone Container Corp., Chicago, Ill.
Tri-Wall Containers, Inc., New York, N. Y.
Union Bag-Camp Paper Corp., New York, N. Y.
Waldorf Paper Products, St. Paul, Minn.

BOXES, SHIPPING, SOLID FIBRE

Container Corp. of America, Chicago, Ill.
Continental Can Co., Gair Fibre Drum & Corrugated Box Division, New York, N. Y.
Crown Zellerbach Corp., San Francisco, Cal.
Gaylord Container Corp., Division of Crown Zellerbach Corp., San Francisco, Cal.
National Container Corp., New York, N. Y.
Rathborne, Hair & Ridgway Box Co., Chicago, Ill.
Waldorf Paper Products, St. Paul, Minn.

BOXES, WIREBOUND (WOODEN)

Ace Box Co., Denver, Colo.
Chicago Mill & Lumber Co., Chicago, Ill.
Continental Box Co., Houston, Tex.
General Box Co., Des Plaines, Ill.
National Pallet Corp., Pittsburgh, Pa.
Rathborne, Hair & Ridgway Box Co., Chicago, Ill.
Southern Crate & Veneer Co., Macon, Ga.
Wirebound Box Manufacturers Assn., Chicago, Ill.

BOXES, WOODEN

Ace Box Co., Denver, Colo.
Atlas Pallet & Lumber Sales, Inc., Chicago, Ill.
Bigelow-Garvey Lumber Co., Chicago, Ill.
Chicago Mill & Lumber Co., Chicago, Ill.
Jones Box & Mill Division, Buffalo, N. Y.
Owens-Illinois Glass Co., Toledo, Ohio.
Pennsylvania Box & Lumber Co., Toledo, Ohio.
Rathborne, Hair & Ridgway Box Co., Chicago, Ill.
U.S. Plywood Corp., New York, N. Y.
Weyerhaeuser Forest Products Co., St. Paul, Minn.

BRUSHES, FOUNTAIN, MARKING, AND STENCIL

Alexander Co., W. H., Philadelphia, Pa. and New York, N. Y.
Bradley Mfg. Co., New York, N. Y.
Cushman & Denison Manufacturing Co., Carlstadt, N. J.
Diagraph Bradley Industries, Inc., Herrin, Ill.
Force & Co., Inc., Wm. A., New York, N. Y.
Garvey Fountain Brush & Ink Co., St. Louis, Mo.

Ideal Stencil Machine Co., Belleville, Ill.
 Marsh Stencil Machine Co., Belleville, Ill.
 Missouri Brush & Crayon Co., St. Louis, Mo.
 Speedry Products, Inc., New York, N. Y.
 Universal Fountain Brush Co., St. Petersburg, Fla.
 Jet Manufacturing Co., Inc., Boston, Mass.

BUSINESS TRAINING, TRAFFIC-TRANSPORTATION

College of Advanced Traffic, Chicago, Ill.
 International Correspondence Schools, Scranton, Pa.
 LaSalle Extension University, Chicago, Ill.
 Shipping Management-National Hi-Way Shipper Book Dept.,
 New York, N. Y.
 Traffic Managers Institute, New York, N. Y.

C

CARTON OPENING DEVICES

Flash Box Opener Co., Newark, N. J.
 Modern Specialties Co., Chicago, Ill.
 Stanley Works, New Britain, Conn.

CASE SEALING MACHINES (GUMMED TAPE)

Better Packages, Inc., Shelton, Conn.
 Clybourn Machine Corp., Chicago, Ill.
 Ferguson, J. L., Co., Joliet, Ill.
 General Corrugated Machinery Co., Palisades Park, N. J.
 Universal Corrugated Box Machinery Corp., Linden, N. J.

CASE SEALING MACHINES (STITCHING)

Acme Steel Products Division, Acme Steel Co., Chicago, Ill.
 Bostitch, Inc., East Greenwich, R. I.
 Clybourn Machine Co., Chicago, Ill.
 Food Machinery & Chemical Corp., San Jose, Cal.
 International Staple & Machine Co., Herrin, Ill.

CASTERS (TRUCK, HANDLING, WAREHOUSING EQUIPMENT)

Bassick Co., Bridgeport, Conn.
 Colson Corp., Chicago, Ill.
 Faultless Caster Co., Evansville, Ind.
 Hamilton Caster & Truck Co., Hamilton, Ohio.
 Nutting Truck and Caster Co., Fairbault, Minn.
 Rapids-Standard Co., Grand Rapids, Mich.

COLORED STENCIL INK

A. J. Bradley Co., New York, N. Y.
 Alexander Co., New York, N. Y. and Philadelphia, Pa.
 Cushman & Denison Mfg. Co., Carlstadt, N. J.
 Diagraph Bradley Industries, Inc., Herrin, Ill.
 Force, Wm. A. & Co., Inc., New York, N. Y.
 Garvey Fountain Brush and Ink Co., St. Louis, Mo.
 Ideal Stencil Machine Co., Belleville, Ill.
 Marsh Stencil Machine Co., Belleville, Ill.
 Reynolds Ink, Inc., Cleveland, Ohio.
 Speedry Products, Inc., Richmond Hill, N. Y.
 Sten-C-Lab, Inc., St. Paul, Minn.
 Universal Fountain Brush Co., St. Petersburg, Fla.

COMPUTERS, ELECTRONIC

Burroughs Corp., New York, N. Y.
 International Business Machines, New York, N. Y.
 National Cash Register Co., Dayton, Ohio.
 Philco Corp., Philadelphia, Pa.
 Sperry-Rand Corporation, New York, N. Y.

COMPUTERS, PARCEL POST RATES

Detecto Scales, Brooklyn, N. Y.
 Pitney-Bowes, Inc., Stamford, Conn.

CONSTRUCTION, TRUCK TERMINALS

Arthur E. Nelson Co., Chicago, Ill.
 W. Scott Armstrong Corp., Chicago, Ill.

CONVEYOR MARKERS (ROLL TYPE, CONTINUOUS)

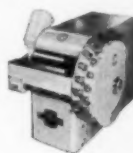
The Acromark Co., Elizabeth, N. J.
 American Seal & Stamp Co., Chicago, Ill.
 Force & Co., Inc., Wm. A., New York, N. Y.

CONVEYOR MARKERS (ROLL TYPE, INTERMITTENT)

The Acromark Co., Elizabeth, N. J.
 American Seal & Stamp Co., Chicago, Ill.
 Force & Co., Inc., Wm. A., New York, N. Y.



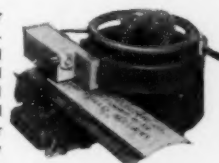
Break up "break-downs" and open your shipping room to fast merchandise flow with these Ideal Stencil packaging and marking devices that are modern . . . and reliable.



Ideal **ELECTRIC CLIP-A-TAPE** Model 200-E, measures, moistens, delivers, and cuts tapes 4" to 105" long at a finger touch. Two models available: one features thermostatically-controlled internal heated water well, 1 to 4" width tape capacity, and is finished in red; the other handles tapes 1 to 3" wide, has on-off switch heat control, and gray finish.

IDEAL Stencil Machine with the new "Power Pack"

air operated, push button controlled cutting mechanism. Just a touch on the button and the letter is cut . . . swiftly, effortlessly. Ideal **STENCIL MACHINE** also available in standard model without "Power Pack." The Ideal Stencil Machine is the only stencil machine to offer automatic paper carriage. Sizes to fit every requirement. This Ideal stencil cutter has automatic gear driven carriage, safe visible cutting action, automatic word spacer, minimum margin grip that saves up to 20% in stencil board. Sizes: No. 1, 1" characters; No. 2, 3/4"; No. 3, 3/8"; and Ideal "Quarter", 1/4" characters.



IDEAL Stencil Machine "Power Pack" described above is also available as a separate unit for installation on standard model Ideal Stencil Machines now in operation.



Ideal **CLIP-A-TAPE** Automatic Gummed Tape Dispenser handles tapes from standard gummed Kraft to cloth. Heavy duty construction, fool-proof operation. Ideal Handy Tape Dispenser has braking action for accuracy in cutting stringfilled reinforced hard-to-cut gummed tape . . . as standard equipment at no extra cost!

IDEAL "Handy Angle" Fountain Brush of light-weight aluminum fits hand comfortably, fills at top without mess or waste, has thumb control flow, allows you to see what you're marking while you're marking. Also Handy B Straight-Handle and Handy C Feather-Weight with "Jet Action" ink feed. Replacement tips screw in.



IDEAL Stencil and Marking Inks in black and variety of colors for porous and nonporous surfaces. Waterproof, weatherproof, quick-drying, indelible, free flowing. Will not smudge or smear. Gives more marks per gallon than so-called "bargain" stencil inks.

IDEAL Felt Tip Fountain Markers in both pocket and shipping room sizes, styled of aluminum and plated brass. Extra felt tips for all sizes in round or chisel shape. Pressure sensitive tip releases ink evenly on cartons, wood, stone, metal, paper, glass, all surfaces. Positive valve prevents leaking when not in use.

Get FREE literature

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

IDEAL

STENCIL MACHINE CO.

108 IOWA AVENUE, BELLEVILLE, ILL.

Names in **BOLD FACE** Are Advertisers In
This Issue—See Advertiser's Index, Page 52

CONVEYORS

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Chain Belt Co., Milwaukee, Wis.
Clark Equipment Co., Battle Creek, Mich.
Jeffrey Manufacturing Co., Columbus, Ohio.
Lamson Corp., Syracuse, N. Y.
Link-Belt Co., Chicago, Ill.
Potdevin Machine Co., Teterboro, N. J.

COVER OLD SHIPPING MARKS (OBLITERATING FLUIDS)

Bankers & Merchants, Inc., Chicago, Ill.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.
Louis Melind Co., Chicago, Ill.
Missouri Brush & Crayon Co., St. Louis, Mo.
Superior Marking Equipment Co., Chicago, Ill.

CRATE NAILER, AUTOMATIC

Auto-Nailer Co., Atlanta, Ga.

CRATES, WIREBOUND (See Wirebound Boxes.)

CRAYONS

American Crayon Co., Sandusky, Ohio.
Binney & Smith, Inc., New York, N. Y.
Diagraph Bradley Industries, Inc., Herrin, Ill.
Garvey Fountain Brush & Ink Co., St. Louis, Mo.
Markal Co., Chicago, Ill.

CUSHIONING MATERIALS

American Excelsior Corp., Chicago, Ill.
American Latex Fibre Co., Lawrence, Mass.
Armour & Co., Cushioning Products Division, Alliance, Ohio.
Celotex Corp., Chicago, Ill.
Chippewa Paper Products Co., Chicago, Ill.
Jiffy Manufacturing Co., Hillside, N. J.
Johns-Manville, Dutch Brand Division, Chicago, Ill.
Kimberly-Clark Corp., Neenah, Wisconsin.
Koppers Co., Chemical Division, Pittsburgh, Pa.
Ludlow Papers, Inc., Needham, Mass.
Personal Products Corp., Milltown, N. J.
Stone Container Corp., Chicago, Ill.
U.S. Rubber Co., New York, N. Y.

D

DATERS, HAND (ALL RUBBER)

Consolidated Stamp Manufacturing Co., Inc., Chicago, Ill.,
Dallas, Tex., New York, N. Y.
Hay Rubber Stamp Co., Washington, D. C.
R. A. Stewart & Co., Inc., New York, N. Y.

DATERS, HAND (ROTARY DIAL)

The Acromark Co., Elizabeth, N. J.
Consolidated Stamp Manufacturing Co., Chicago, Ill., Dallas,
Tex., New York, N. Y.
The Cooke Time Stamp Co., Omaha, Neb.
Force & Co., Inc., Wm. A., New York, N. Y.
Louis Melind Co., Chicago, Ill.
R. A. Stewart & Co., New York, N. Y.

DESSICANTS, DEHYDRATION AGENTS

American Industrial Chemical Co., Division of Amerace Corp.,
Butler, N. J.
Cooper, D. C., Co., Chicago, Ill.
Davison Chemical Co., Division of W. R. Grace & Co., Baltimore,
Md.
DriAire, Inc., Norwalk, Conn.
Eagle Chemical Co., Chicago, Ill.
Filtrol Corp., Los Angeles, Cal.

DIES, PRINTING

Hansen, C. H., Co., Chicago, Ill.
Pittsburgh Stamp Co., Pittsburgh, Pa.

DIES, STENCIL

Floquil Products, Inc., Cobleskill, N. Y.

Spencer Manufacturing Co., Boston, Mass.

DOCKBOARDS, HYDRAULIC ADJUSTABLE

Aard Equipment Co., Buffalo, N. Y.
Brooks & Perkins, Inc., Detroit, Mich.

DOCKBOARDS, ADJUSTABLE (MANUAL & HYDRAULIC)

Aard Equipment Co., Buffalo, N. Y.
Brooks & Perkins, Inc., Detroit, Mich.
Elizabeth Iron Works, Elizabeth, N. J.
Globe Hoist Co., Philadelphia, Pa.
Kelley Co., Milwaukee, Wis.
Magline, Inc., Pinconning, Mich.
Magnesium Co. of America, East Chicago, Ind.
Revolator Co., North Bergen, N. J.
Rotary Lift Co., Memphis, Tenn.
Rowe Methods, Inc., Cleveland, Ohio.

DOCK SHELTERS

Capco, Inc., Kansas City, Mo.
Frommelt, Inc., Chicago, Ill.

E

ELEVATORS, PORTABLE

Barrett-Cravens Co., Northbrook, Ill.
Globe Hoist Co., Philadelphia, Pa.
Lewis-Shepard Products, Inc., Watertown, Mass.
West Bend Equipment Co., West Bend, Wis.
Yale & Towne Manufacturing Co., Philadelphia, Pa.

EXCELSIOR PRODUCTS

American Excelsior Corp., Chicago, Ill.
American Industries Co., Division of American Shredded Pa-
per Co., Dorchester, Mass.
American Viscose Corp., Film Division, Philadelphia, Pa.
Shredded Paper Products Co., Baltimore, Md.

F

FASTENERS & STITCHING EQUIPMENT

Acme Staple Co., Camden, N. J.
Arrow Fastener Co., Inc., New York, N. Y.
Bostitch, Inc., Westerly, R. I.
Fastener Corp., Chicago, Ill.
Hansen Manufacturing Co., A. L., Chicago, Ill.
Inland Wire Products Co., Chicago, Ill.
Mid-States Steel and Wire Co., Crawfordsville, Ind.
Riverside-Alloy Metal Division, H. K. Porter Co., Holyoke, Mass.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, New Britain, Conn.

FILING EQUIPMENT, TRAFFIC OFFICE

Acme Visible Records, Inc., New York, N. Y.
Cole-Steel Equipment, New York, N. Y.
Diebold, Inc., New York, New York
Globe-Wernicke Co., New York, N. Y.
Herring-Hall-Marvin Safe Co., New York, N. Y.
Nathan, Chas. S., Inc., New York, N. Y.
Remington Rand Division of the Sperry Rand Corporation,
New York, N. Y.
Rol-Dex, Inc., New York, N. Y.
Wassel Company, New York, N. Y.

FILING STANDS & CABINETS, STENCIL

Diagraph Bradley Industries, Inc., Herrin, Ill.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.

FOUNTAIN MARKERS

Cushman & Denison Manufacturing Co., New York, N. Y.
Diagraph Bradley Industries, Inc., Herrin, Ill.
Flash Manufacturing Co., Newark, N. J.
Force & Co., Inc., Wm. A., New York, N. Y.
Garvey Fountain Brush and Ink Co., St. Louis, Mo.
Louis Melind Co., Chicago, Ill.
Marsh Stencil Machine Co., Belleville, Ill.
Speedry Products, Inc., New York, N. Y.
Universal Fountain Brush Co., St. Petersburg, Fla.

FREIGHT FORWARDERS, SURFACE (DOMESTIC)

ABC Freight Forwarding, New York, N. Y.
Acme Fast Freight, New York, N. Y.
Aetna Forwarding Co., New York, N. Y.

American Express Freight Forwarding, New York, N. Y.
 American Freight Forwarding, New York, N. Y.
 Arrow Freight Forwarders, New York, N. Y.
 Bernacki, Peter A., New York, New York
 Century Carloading, New York, N. Y.
 Consolidated Freightways, Portland, Ore.
 Dohrn Transfer, Rock Island, Ill.
Lifschultz Fast Freight, New York, N. Y.
 Merchants Carloading, New York, N. Y.
 National Carloading, New York, N. Y.
 Neptune Forwarding, New York, N. Y.
 Railway Express, New York, N. Y.
 Republic Carloading, New York, N. Y.
 Southern Consolidating, New York, N. Y.
 Universal Carloading & Distributing Co., New York, N. Y.
 U. S. Forwarding Co., New York, N. Y.
 U. S. Freight Forwarding Co., New York, N. Y.
 Western Carloading, New York, N. Y.
 Wilson Freight Forwarding Co., New York, N. Y.

FREIGHT INSURANCE

Mid-Union Indemnity Co., Elgin, Ill.
 Truck Insurance Exchange, Los Angeles, Cal.

FREIGHT GUIDES, HIGHWAY

Albrecht's Routing Guide, Seattle, Wash., San Francisco, Cal.,
 Los Angeles, Cal., Denver, Colo.
 ATA Motor Carrier Directory, Atlanta, Ga.
 Leonard's Guide, New York, N. Y., Chicago, Ill.
 National Highway Carriers Directory, Chicago, Ill.
 Official Motor Carrier Directory, Chicago, Ill.
 Official Motor Freight Guide, Chicago, Ill.
 Shippers Guide Co., Inc., New York, N. Y., Chicago, Ill., St.
 Louis, Mo.
 Storrs Motor Transport Shipping Guide, St. Louis, Mo.
 Way To Ship—Chicago Association of Commerce, Chicago, Ill.

G

GLUE, LIQUID AND FLEXIBLE

Arabol Manufacturing Co., New York, N. Y.
Glue-Fast Equipment Co., Inc., New York, N. Y.
 Minnesota Mining & Manufacturing Co., Detroit, Mich.

GLUE BRUSHES

Pittsburgh Plate Glass Co., Brush Division, Pittsburgh, Pa.

GLUE SPREADING COMPONENTS

Ever-Seal Glues, Inc., New York, N. Y.
Glue-Fast Equipment Co., Inc., New York, N. Y.
Potdevin Machine Co., Teterboro, N. J.

GLUING MACHINERY

Clybourn Machine Corp., Chicago, Ill.
 Ferguson, J. L., Co., Joliet, Ill.
 General Corrugated Machinery Co., Palisades Park, N. J.
Glue-Fast Equipment Co., Inc., New York, N. Y.
Potdevin Machine Co., Teterboro, N. J.
 Standard-Knapp Division, Emhart Manufacturing Co., Portland,
 Conn.
 Stokes & Smith Co., Subsidiary of the Food Machinery &
 Chemical Corp., Philadelphia, Pa.

GUMMED TAPES

Adhesive Products, Inc., Albany, Cal.
Brown-Bridge Mills, Inc., Troy, Ohio
 Central Paper Co., Menasha, Wis.
 Crown Zellerbach Corp., San Francisco, Cal.
 General Gummed Products, Inc., Linden, N. J.
Gilman Paper Co., New York, N. Y.
 Gummed Products Co., Subsidiary of St. Regis Paper Co.,
 Troy, Ohio
 Hudson Pulp & Paper Co., New York, N. Y.
 Ludlow Papers, Inc., Needham, Mass.
 Mid-States Gummed Paper Co., Bedford Park, Ill.
 Nashua Corp., Nashua, N. H.
 Rexford Paper Co., Milwaukee, Wis.
 St. Regis Paper Co., New York, N. Y.
 Seal-O-Matic Dispenser Corp., Newark, N. J.

GUMMED TAPE DISPENSERS (See Sealing Machines, Gummed Tape.)

Acme Staple Co., Camden, N. J.
 Arrow Fastener Co., Inc., New York, N. Y.
 Bostitch, Inc., East Greenwich, R. I.



POTDEVIN

Semi-Automatic Feed Label Paster

Instant adjustment
 for labels up to 7½"
 wide. Operator's
 hands always free.
 Speeds-up produc-
 tion with minimum
 effort. Write for
 literature.



POTDEVIN MACHINE CO.
 208 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making,
 Printing, Coating, Laminating, Gluing and Labeling.

Fastener Corp., Chicago, Ill.
Hansen Manufacturing Co., A. L., Chicago, Ill.
Potdevin Machine Co., Teterboro, N. J.

HANDLING EQUIPMENT GENERAL

Acme Pallet Co., New York, N. Y.
 Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
 American Pulley Co., Philadelphia, Pa.
 Automatic Transportation Co., Chicago, Ill.
 Clark Equipment Co., Buchanan, Mich.
 Colson Corp., Elyria, Ohio
 Ellwell-Parker Electric Co., Cleveland, Ohio
 Fairbanks Co., New York, N. Y.
 Ferguson Machine Corp., St. Louis, Mo.
 Hamilton Caster & Manufacturing Co., Hamilton, Ohio
 Hamilton Tool Co., Hamilton, Ohio
 Hewitt-Robins, Inc., Stamford, Conn.
 Howe Scale Co., Rutland, Vt.
 International Staple & Machine Co., Herrin, Ill.
 Jeffrey Manufacturing Co., Columbus, Ohio
 Lamson Corp., Syracuse, N. Y.
 Lewis-Shepard Products, Inc., Watertown, Mass.
 Link-Belt Co., Chicago, Ill.
 Logan Co., Louisville, Ky.
 M-H Standard Corp., Jersey City, N. J.
 Magline, Inc., Pinconning, Mich.
 Rapids-Standards Co., Grand Rapids, Mich.
 Reeves Pulley Co., Columbus, Ind.
 Revolver Co., North Bergen, N. J.
 West Bend Equipment Corp., West Bend, Wis.

HUMIDITY INDICATORS AND CONTROL UNITS

Abbeon Supply Co., Jamaica, L. I., N. Y.
 Bristol Co., Waterbury, Conn.
 Cooper, D. C. Co., Chicago, Ill.
 Culligan, Inc., Northbrook, Ill.
 DriAire, Inc., South Norwalk, Conn.
 El-Tronics, Inc., Philadelphia, Pa.
 Fischer & Porter Co., Hatboro, Pa.
 Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
 Walton Laboratories, Irvington, N. J.

IMPACT REGISTERS

Impact Register Co., Champaign, Illinois
Impact-O-Graph Co., Cleveland, Ohio

INDELIBLE MARKING KITS

Carter's Ink Co., Cambridge, Mass.
Consolidated Stamp Manufacturing Co., New York, Dallas, Chicago, Los Angeles
Fulton Marking Equipment Co., Elizabeth, N. J.
Louis Melind Co., Chicago, Ill.
Stanford Ink Co., Bellwood, Ill.
R. A. Stewart & Co., Inc., New York, N. Y.
Superior Marking Equipment Co., Chicago, Ill.

INKS, AEROSOL

Bankers & Merchants, Inc., Chicago, Ill.
Diagraph-Bradley Industries, Inc., Herrin, Ill.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.
Louis Melind Co., Chicago, Ill.
Missouri Brush & Crayon Co., St. Louis, Mo.
Reynolds Ink, Inc., Cleveland, Ohio

INKS, GUMMED TAPE

Chicago Ink & Research Co., Antioch, Ill.
Fulton Marking Equipment Co., Elizabeth, N. J.
Ideal Stencil Machine Co., Belleville, Ill.
Louis Melind Co., Chicago, Ill.
Superior Marking Equipment Co., Chicago, Ill.

INKS, STAMPS (RUBBER)

Bankers & Merchants, Inc., Chicago, Ill.
Carter's Ink Co., Cambridge, Mass.
Chicago Ink & Research Co., Antioch, Ill.
Fulton Marking Equipment Co., Elizabeth, N. J.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Co., Belleville, Ill.
Missouri Brush & Crayon Co., St. Louis, Mo.
Vogler Manufacturing Co., Elizabeth, N. J.

INKS, STENCIL & MARKING

Bankers & Merchants, Inc., Chicago, Ill.
Carter's Ink Co., Cambridge, Mass.
Chandler & Fischer Co., Cleveland, Ohio
Cushman & Denison Manufacturing Co., Carlstadt, N. J.
Diagraph-Bradley Industries, Inc., Herrin, Ill.
Force & Co., Inc., Wm. A., New York, N. Y.
Fulton Marking Equipment Co., Elizabeth, N. J.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.
Melind, Louis, Chicago, Ill.
Reynolds Ink, Inc., Cleveland, Ohio
Sanford Ink, Inc., Bellwood, Ill.
Speedry Products, Richmond Hill, N. Y.
Stewart, R. A. & Co., New York, N. Y.
Sten-C-Lab, St. Paul, Minn.
Universal Fountain Brush, St. Petersburg, Fla.
Weber Addressing Machine Co., Mt. Prospect, Ill.

L

LABELS, ROLL

American Tag Co., Belleville, Ill.
Avery Adhesive Label Corp., Monrovia, Calif.
Dennison Manufacturing Co., Framingham, Mass.
Ever Ready Label Corp., Belleville, N. J.
Globe Ticket Co., Philadelphia, Pa.
Hollander, Allen, Co., New York City, N. Y.
Kleen-Stik Products, Inc., Chicago, Ill.
May, J. L., Co., New York City, N. Y.
Nashua Corp., Nashua, N. H.
New York Label & Box Corp., New York City, N. Y.
Weber Marking Systems, Div. of Weber Addressing Machine Co., Mt. Prospect, Ill.

LABLES, SHIPPING

American Tag Co., Belleville, Ill.
Dennison Manufacturing Co., Framingham, Mass.
Ever Ready Label Corp., Belleville, N. J.
Hollander, Allen, Co., New York City, New York

May, J. L., Co., New York City, N. Y.
Weber Marking Systems, Div. of Weber Addressing Machine Co., Mt. Prospect, Ill.

LABEL MOISTENING DEVICES

Better Packages, Inc., Detroit, Mich.
Derby Sealers, Inc., Shelton, Conn.
Diagraph-Bradley Industries, Inc., Herrin, Ill.
Glue-Fast Equipment Co., Inc., New York City, N. Y.
Seal-O-Matic Dispenser Corp., Newark, N. J.
Nashua Co., Nashua, N. H.
Potdevin Machine Co., Teterboro, N. J.

LABORATORIES, PACKAGING (TESTING & RESEARCH)

Bowser-Morner Testing Laboratories, Dayton, Ohio
Color Research Institute, Chicago, Ill.
Container Laboratories, Inc., New York City, N. Y.
Designers For Industry, Inc., Cleveland, Ohio
Detroit Testing Laboratory, Inc., Detroit, Mich.
Midwest Testing Laboratories, Chicago, Ill.
New York Testing Laboratories, Inc., New York City, N. Y.
United States Testing Co., Hoboken, N. J.

LINERS, PACKAGE

American Sisalcraft Corp., Attleboro, Mass.
Arkell Safety Bag Co., New York City, N. Y.
Bernis Bros. Bag Co., St. Louis, Mo.
Celotex Corp., Chicago, Ill.
Central States Paper & Bag Co., St. Louis, Mo.
Cromwell Paper Co., Chicago, Ill.
Crown Zellerbach Corp., Western-Waxide Div., San Leandro, Calif.
Gilman Paper Co., New York
Ludlow Papers, Inc., Needham Heights, Mass.
Mid-States Gummed Paper Co., Chicago, Ill.
Rexford Paper Co., Milwaukee, Wis.
Thilmany Paper & Pulp Co., Kaukauna, Wis.

M

MACHINERY, LABEL PRINTING

Cooper Co., D. C., Chicago, Ill.
Multi-Stamp Co., Norfolk, Va.
Sten-C-Lab, Inc., St. Paul, Minn.
Weber Addressing Machine Co., Mt. Prospect, Ill.

MACHINERY, MARKING

The Acromark Co., Elizabeth, N. J.
Apex Machine Co., College Point, N. Y.
Consolidated Stamp Manufacturing Co., Inc., New York, Chicago, Dallas, Los Angeles
Cunningham, M. E., Pittsburgh, Pa.
Force, Wm. A., Brooklyn, N. Y.
Superior Marking Equipment Co., Chicago, Ill.

MAILING CASES

Bemis Bros. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
Jiffy Manufacturing Co., Hillside, N. J.

MARKING PENS

Cushman & Dennison Manufacturing Co., Carlstadt, N. J.
Flash Manufacturing Co., Newark, N. J.
Force, Wm. A., Brooklyn, N. Y.
Ideal Stencil Machine Co., Belleville, Ill.
Multistamp Co., Inc., Norfolk, Va.
Speedry Products, Inc., New York, N. Y.
Universal Fountain Brush Co., St. Petersburg, Fla.
Weber Addressing Machine Co., Mt. Prospect, Ill.

METERS, POSTAGE

Pitney-Bowes, Inc., Stamford, Conn.

MOTOR FREIGHT CARRIERS

Accelerated Transport-Pony Express, Hagerstown, Md.
Ace Transportation, Akron, O.
Adley Express, New Haven, Conn.
Akron-Chicago Transportation, Akron, O.
Akers Motor Lines, Gastonia, N. C.
Alger, George F., Detroit, Mich.

All States Freight, Akron, O.
 Apex Express, Perth Amboy, N. J.
 Arkansas-Best Freight System, Fort Smith, Ark.
 Arrow Carrier Corp., Carlstadt, N. J.
Associated Truck Lines, Grand Rapids, Mich.
 Atlanta-New Orleans Motor Freight, Atlanta, Ga.
 B & M Express, Birmingham, Ala.
 Baltimore Transfer, Baltimore, Md.
 Bell Lines, Charleston, W. Va.
 Be-Mac Transport, St. Louis, Mo.
 Bender & Loudon Motor Freight, W. Richfield, O.
 Best Way of Indiana, Terre Haute, Ind.
 Blair Transit, Saginaw, Mich.
 Bonifield Brothers Truck Lines, Metropolis, Ill.
 Brady Motorfreight, Des Moines, Iowa.
 Branch Motor Express, Brooklyn, N. Y.
 Briggs Transportation, St. Paul, Minn.
 Brooks Transportation, Richmond, Va.
 Bruce Motor Freight, Des Moines, Iowa
 Buch Express, Harrisburg, Pa.
 Burlington Truck Lines, Galesburg, Ill.
 Campbell Sixty Six Express, Springfield, Mo.
Central Motor Lines, Charlotte, N. C.
 Central Truck Lines, Tampa, Fla.
 Chicago Express, New York, N. Y.
 Chief Freight Lines, Kansas City, Kans.
 Clairmont Transfer, North Escanaba, Mich.
 Clemans Truck Line, South Bend, Ind.
 Commercial Motor Freight, Columbus, O.
 Commercial Motor Freight of Indiana, Indianapolis, Ind.
 Consolidated Forwarding, St. Louis, Mo.
 Consolidated Freight, Saginaw, Mich.
Consolidated Freightways, Inc., Menlo Park, Calif.
 Continental Transportation Lines, McKees Rocks, Pa.
 Cooper Jarrett Motor Freight, Chicago, Ill.
 Cowan, W. T., Baltimore, Md.
 Cushman Motor Delivery Company, Chicago, Ill.
 Dance Freight Lines, Lexington, Ky.
 Davidson Transfer & Storage, Baltimore, Md.
 Delta Lines, Jackson, Miss.
Denver Chicago Trucking Company, Denver, Colo.
 Dixie Highway Express, Meridian, Miss.
 Dixie Ohio Express, Akron, O.
 Dohrn Transfer, Rock Island, Ill.
 Dorn's Transportation, Rensselaer, N. Y.
 Douglas Trucking Lines, Owosso, Mich.
 Doyle Freight Lines, Saginaw, Mich.
 Dundee Truck Line, Toledo, O.
 East Texas Motor Freight, Dallas, Tex.
 Eastern Express, Terre Haute, Ind.
 Eastern Motor Dispatch, Columbus, O.
 Eazor Express, Ind., Pittsburgh, Pa.
 Ellis Trucking, Indianapolis, Ind.
 Federal Express, Indianapolis, Ind.
 Frisco Transportation, Springfield, Mo.
 Garrett Freight Lines, Pocatello, Idaho.
 Gateway Transportation, La Crosse, Wis.
 General Expressways, Chicago, Ill.
 Glendenning Motorways, St. Paul, Minn.
Gordons Transports, Inc., Memphis, Tenn.
 Great Southern Trucking Company, Ryder System, Jacksonville, Fla.
 H & W Motor Express, Dubuque, Iowa
 Hall's Motor Transit, Sunbury, Pa.
 Hancock Trucking Company, Inc., Evansville, Ind.
 Hart Motor Express, Minneapolis, Minn.
 Helm's Express, Pittsburgh, Pa.
 Hemingway Brothers, New Bedford, Mass.
 Hennis Freight Lines, Inc., Winston-Salem, N. C.
 Holland Motor Express, Holland, Mich.
 Hoover Motor Express, Inc., Nashville, Tenn.
 Huber & Huber, Louisville, Ky.
 Husmann & Roper Freight Lines, St. Louis, Mo.
 Interstate Dispatch, Inc., Chicago, Ill.
 Interstate (Motor Freight) System, Grand Rapids, Mich.
 Interstate Motor Lines, Inc., Salt Lake City, Utah
 Johnson Motor Lines, Inc., Charlotte, N. C.
 Keeshin Transport System, Toledo, O.
 Knaus Truck Lines, Kansas City, Mo.
 Lake Motor Freight Lines, South Bend, Ind.
 Lee Way Motor Freight, W. Reno, Okla.
 Liberty Motor Freight Lines, Secaucus, N. J.
 Long Transportation, Detroit, Mich.
 Lyons Transportation, Erie, Pa.
 M & M Transportation, Somerville, Mass.
 Mason & Dixon Lines, Kingsport, Tenn.

McLean Trucking, Winston-Salem, N. C.
 McNamara Motor Express, Kalamazoo, Mich.
 Mead, W. L., Norwalk, O.
 Michigan Express, Grand Rapids, Mich.
 Mid-Continent Freight Lines, Chicago, Ill.
 Middle Atlantic Transportation, New Britain, Conn.
 Motor Express, Inc., Cleveland, O.
 Murphy Motor Freight Lines, St. Paul, Minn.
 National Transit, Detroit, Mich.
 Navajo Freight Lines, Denver, Colo.
 New England Transportation, Boston, Mass.
Norwalk Truck Lines, Norwalk, O.
 Olson, Fred, Motor Service, Milwaukee, Wis.
 Pacific Intermountain Express, Oakland, Calif.
 Pic-Walsh Freight, St. Louis, Mo.
Pilot Freight Carriers, Inc., Winston-Salem, N. C.
 R. C. Motor Lines, Jacksonville, Fla.
 Red Ball Motor Freight, Dallas, Tex.
 Red Star Transit, Detroit, Mich.
 Ringsby Truck Lines, Inc., Denver, Colo.
 Roadway Express, Akron, O.
 Rodgers Motor Lines, Scranton, Pa.
 Saginaw Transfer, Saginaw, Mich.
 St. Johnsbury Trucking, St. Johnsbury, Vt.
 Schreiber Trucking, Pittsburgh, Pa.
 Security Cartage, Ft. Wayne, Ind.
 Shippers Dispatch, South Bend, Ind.
 Silver Fleet Motor Express, Louisville, Ky.
 Smith Transport, Hoboken, N. J.
 Smith's Transfer Corporation, Staunton, Va.
 Southern Pacific Transport, Houston, Tex.
 Southern-Plaza Express, Inc., Dallas, Tex.
 Southeastern Transportation, Texarkana,
 The Spector Freight System, Chicago, Ill.
 Steffke Freight, Wausau, Wis.
 Strickland Transportation Company, Dallas, Tex.
 Summit Fast Freight, Akron, O.
 Super Service Motor Freight, Inc., Nashville, Tenn.
 T.I.M.E., Inc., Lubbock, Tex.
 T. S. C. Motor Freight, Ryder System, Houston, Tex.
 Tarbet Trucking, Muncie, Ind.
 Terminal Transport, Atlanta, Ga.
 Texas-Arizona Motor Freight, Inc., El Paso, Tex.
 Transamerican Freight Lines, Detroit, Mich.
 Transcon Lines, Los Angeles, Cal.
 Union Freightways, Omaha, Neb.
 United Trucking Service, Detroit, Mich.
Valley Copperstate Sunset Transportation System, Fresno, Cal.
 Victor Lynn Lines, Inc., Salisbury, Md.
 Victorville Barstow Truck Line, Los Angeles, Cal.
 Viking Freight, St. Louis, Mo.
 Watkins Motor Lines, Thomasville, Ga.
Watson Transportation System, Omaha, Neb.
 Western Gillette Truck Lines, Los Angeles, Calif.
 Wilson Truck Company, Inc., Nashville, Tenn.
 Yellow Transit Freight Lines, Kansas City, ??
 Ziffrin Truck Lines, Indianapolis, Ind.

MULTIPLE TRAFFIC FORMS

American Register Corp., Boston, Mass.
 Autographic Register Co., Hoboken, N. J.
 Multistamp Co., Inc., Norfolk, Va.

N

NAILING MACHINERY

Acme Staple Co., Camden, N. J.
 Auto-Nailer Co., Atlanta, Ga.
 Bostitch, Inc., East Greenwich, R. I.
 International Staple & Machine Co., Herrin, Ill.

NUMBERING DEVICES

The Acromark Company, Elizabeth, N. J.
 American Numbering Machine Co., Brooklyn, N. Y.
 Eastern Numbering Machines, Inc., New York City, N. Y.
 Force, Inc., Wm. A., Brooklyn, New York

P

PACKAGING, CONTRACT

Acepak, Inc., Chicago, Ill.
 Advance Packaging Co., Chicago, Ill.
 Con-Serv Corp., Air-Pak Div., Monterey Park, Cal.

Dyn Corp., Cliffside Park, N. J.
 Cargo Packers, Inc., Glendale, N. Y.
 Contact Packers, Inc., New York City, N. Y.
 Fluid Chemical Co., Newark, N. J.
 Holmes Equipment Co., San Francisco, Cal.
 Klear Form Pak, Inc., Baltimore, Md.
 Kolmar Laboratories, Milwaukee, Wis.
 Specification Packaging Engineering, North Hollywood, Cal.

PACKAGING, PADS

American Excelsior Co., Inc., Chicago, New York, Boston
 Chippewa Paper Products, Chicago, Ill.

PALLETS, ALUMINUM

Acme Pallet Co., New York City, N. Y.
 Market Forge Co., Everett, Mass.
 Washington Aluminum Co., Baltimore, Md.

PALLETS, CORRUGATED (EXPENDABLE)

Gair, Inc., Robert, New York City, N. Y.
 Signode Steel Strapping, Chicago, Ill.
 Titan Pallet Co., Inc., New York City, N. Y.

PALLETS, WOOD (EXPENDABLE)

Acme Pallet Co., New York City, N. Y.
 Industrial Pallet Co., New York City, N. Y.
 Rathborne, Hair & Ridgway Box Co., Inc., Chicago, Ill.
 Signode Steel Strapping Co., Chester, Ill.

PALLETS AND SKIDS

General Box Co., Des Plaines, Ill.
 Rathborne, Hair & Ridgway Box Co., Inc., Chicago, Ill.

PAPER, CORRUGATED

Bestpak, Inc., Natick, Mass.
 Chippewa Paper Products, Inc., Chicago, Ill.
 Dixie Container Corp., Richmond, Va.
 Flintkote Company, Los Angeles, Cal.
 Hinde & Dauch, Sandusky, Ohio
 Inland Container Corp., Indianapolis, Ind.
 National Container Corp., New York City, N. Y.
 St. Regis Container Corp., Div. of St. Regis Paper Co., Cleveland, Ohio
 Sherman Paper Products, Inc., Newton, Mass.
 Waldorf Paper Products, St. Paul, Minn.

POWER STITCHING EQUIPMENT

Acme Staple Co., Camden, N. J.
 Bostitch, Inc., East Greenwich, R. I.
 International Staple & Machine Co., Herrin, Ill.
 Mid-States Steel & Wire Co., Crawfordsville, Ind.

PRESSURE-SENSITIVE TAPE

Behr-Manning Co., Troy, N. Y.
 General Tape Corp., St. Paul, Minn.
 Johns-Manville, Dutch Brand Div., Chicago, Ill.
 Kleen-Stik Products, Inc., Chicago, Ill.
 Minnesota Mining & Manufacturing Co., St. Paul, Minn.
 Mystik Adhesive Products, Chicago, Ill.
 Permacel Tape Corp., New Brunswick, N. J.
 Rexford Paper Co., Milwaukee, Wis.
 Williamson Adhesives Co., Skokie, Ill.

R-5

RACKS, STORAGE (PERMANENT)

Acme Steel Co., Chicago, Ill.
 American Metal Products Co., Detroit, Mich.
 Barrett-Cravens Co., Northbrook, Ill.
 Equipment Manufacturing Co., Detroit, Mich.
 Equipto Corp., Aurora, Ill.
 Lewis-Shepherd Products, Inc., Watertown, Mass.
 Rapids-Standard Co., Grand Rapids, Mich.
 Sturdi-Bilt Steel Products, Inc., Chicago, Ill.
 Unistrut Products, Inc., Chicago, Ill.

SCALES, BENCH

Detecto Scales, Inc., Brooklyn, N. Y.
 Fairbanks, Morse & Co., Chicago, Ill.
 Howe Scale Co., Inc., Rutland, Vt.
 Pitney-Bowes, Inc., Stamford, Conn.
 Toledo Scale Co., Toledo, Ohio

SCALES, FLOOR

Detecto Scales, Inc., Brooklyn, N. Y.

Howe Scale Co., Inc., Rutland, Vt.
 Toledo Scale Co., Toledo, Ohio

SCALES, LIFT TRUCK

Detecto Scales, Inc., Brooklyn, N. Y.
 Martin-Decker Corp., Long Beach, Cal.

SCALES, PORTABLE

Barret-Cravens Co., Northbrook, Ill.
 Detecto Scales, Inc., Brooklyn, N. Y.
 Fairbanks, Morse & Co., Chicago, Ill.
 Howe Scale Co., Inc., Rutland, Vt.
 Toledo Scale Co., Toledo, Ohio

SCALES, POSTAL

Detecto Scales, Inc., Brooklyn, N. Y.
 Pitney-Bowes, Inc., Stamford, Conn.

SEALING MACHINES, ADHESIVES (AUTOMATIC)

Better Packages, Inc., Shelton, Conn.
 Derby Sealers, Inc., Derby, Conn.
 Ferguson Co., J. L., Joliet, Ill.
 Ideal Stencil Machine Co., Belleville, Ill.
 Paisley Products, Inc., Chicago, Ill.
 Nashua, Inc., Nashua, N. H.
 Potdevin Machine Co., Teterboro, N. J.
 Seal-O-Matic Dispenser Corp., Newark, N. J.

SEALING MACHINES, GUMMED TAPE (AUTOMATIC)

Better Packages, Inc., Shelton, Conn.
 Derby Sealers, Inc., Derby, Conn.
 Diagraph-Bradley Industries, Herrin, Ill.
 General Corrugated Machinery Co., Palisades Park, N. J.
 Gummed Tape & Devices Co., Brooklyn, N. Y.
 Hummel, A. C., Co., Cincinnati, Ohio
 Marsh Stencil Machine Co., Belleville, Ill.
 Nashua Corp., Nashua, N. H.
 Salem Label Co., Salem, Ohio
 Seal-O-Matic Dispenser Corp., Newark, N. J.

SEALING MACHINES, PRESSURE SENSITIVE TAPE

Avery Adhesive Label Corp., Monrovia, Cal.
 Bemis Bros. Bag Co., St. Louis, Mo.
 Better Packages, Inc., Shelton, Conn.
 Derby Sealers, Inc., Derby, Conn.
 Gerrard, A. J. & Co., Melrose Park, Ill.
 Gummed Tape & Devices Co., Brooklyn, N. Y.
 Minnesota Mining & Manufacturing Co., St. Paul, Minn.
 Salem Label Co., Salem, Ohio
 Williamson Adhesives, Inc., Skokie, Ill.

STAMP PADS

Bankers & Merchants, Inc., Chicago, Ill.
 Bates Manufacturing Co., Orange, N. J.
 Carter's Ink Company, Cambridge, Mass.
 Consolidated Stamp Manufacturing Co., Chicago, Dallas, Los Angeles, New York
 Force, Wm. A. & Co., Inc., New York, N. Y.
 Multistamp Co., Norfolk, Va.
 Sanford Ink Co., Bellwood, Ill.
 Weber Addressing Machine Co., Mt. Prospect, Ill.

STAPLERS

Acme Staple Co., Camden, N. J.
 American Machine Works, Inc., Racine, Wis.
 Arrow Fastener Co., Brooklyn, N. Y.
 Bostitch, Inc., East Greenwich, R. I.
 Container Stapling Corp., Herrin, Ill.
 Diagraph-Bradley Industries, Herrin, Ill.
 Fastener Corp., Chicago, Ill.
 General Staple Co., New York City, N. Y.
 Hansen Manufacturing Co., A. L., Chicago, Ill.
 Inland Wire Products Co., Chicago, Ill.
 International Staple & Machine Co., Herrin, Ill.
 Mid-States Steel and Wire Co., Crawfordsville, Ind.
 Signode Steel Strapping Co., Chicago, Ill.
 Staplex Co., Brooklyn, N. Y.
 Seal-O-Matic Dispenser Corp., Newark, N. J.

STENCIL CUTTING DEVICES

Diagraph-Bradley Industries, Herrin, Ill.
 Ideal Stencil Machine Co., Belleville, Ill.
 Kregel Manufacturing Co., New York City, N. Y.
 Marsh Stencil Machine Co., Belleville, Ill.

Multistamp Co., Inc., Norfolk, Va.
National Rubber Stamp Works, New York City, N. Y.

STENCIL SUPPLIES (GENERAL)

Alexander Co., W. H., New York and Philadelphia
Diagraph-Bradley Industries, Inc., Herrin, Ill.
Force, Wm. A., Inc., Brooklyn, N. Y.
Garvey Fountain Brush and Ink Co., St. Louis, Mo.
Ideal Stencil Machine Co., Belleville, Ill.
Marsh Stencil Machine Co., Belleville, Ill.
Universal Fountain Brush Co., St. Petersburg, Fla.
Weber Addressing Machine Co., Mt. Prospect, Ill.

STITCHING EQUIPMENT, WIRE

Acme Steel Products Div., Acme Steel Co., Chicago, Ill.
Burgess Fastening Co., Cleveland, Ohio
Diagraph-Bradley Industries, Inc., Herrin, Ill.
Food Machinery and Chemical Corp., San Jose, Cal.
Inland Wire Products, Chicago, Ill.
International Staple and Machine Co., Herrin, Ill.
Mid-States Steel and Wire Co., Crawfordsville, Ind.
Riverside-Alloy Metal Div., H. K. Porter Co., Inc., Holyoke, Mass.

STRAPPING, STEEL & ALLIED COMPONENTS

Acme Steel Products Div., Acme Steel Co., Chicago, Ill.
Allegheny Steel Band Co., Pittsburgh, Pa.
Brainard Steel Div., Sharon Steel Corp., Warren, Ohio
Gerrard, A. J., and Co., Melrose Park, Ill.
Gerrard Steel Strapping Div., U. S. Steel Corp., Chicago, Ill.
Inland Wire Products Co., Chicago, Ill.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, New Britain, Conn.

T

TACKERS (Also see "Fasteners" and "Staplers" elsewhere.)

Diagraph-Bradley Industries, Inc., Herrin, Ill.
Hansen Manufacturing Co., A. L., Chicago, Ill.
Riverside-Alloy Metal Div., H. K. Porter Co., Inc., Holyoke, Mass.

TAG PRINTING

Weber Addressing Machine Co., Mt. Prospect, Ill.

TAGS

American Tag Co., Belleville, Ill.
Denison Manufacturing Co., Framingham, Mass.
Eastman Tag & Label Co., Richmond, Cal.
Fox, C. J., Co., Providence, R. I.
Hollander, Allen, New York City, N. Y.
May, J. L., Co., New York City, N. Y.
Pollack Paper Corp., Subsidiary of St. Regis Paper Co., Dallas, Tex.
Reyburn Manufacturing Co., Philadelphia, Pa.

TRUCKS, HAND

American Pulley Co., Philadelphia, Pa.
Brooks & Perkins, Inc., Detroit, Mich.
Colson Corp., Elyria, Ohio
Equipment Manufacturing, Inc., Detroit, Mich.
Equipto, Aurora, Ill.
The Fairbanks Co., New York City, N. Y.
Hamilton Caster and Manufacturing Co., Hamilton, Ohio
Howe Scale Co., Inc., Rutland, Vt.
Lewis-Shepard Products, Inc., Watertown, Mass.
Magnesium Co. of America, East Chicago, Ind.
Nutting Truck & Caster Co., Fairbault, Minn.
West Bend Equipment Corp., West Bend, Wis.
Yale & Towne Manufacturing Co., Philadelphia, Pa.

TRUCK TRAILER MANUFACTURERS

Bartlett Trailer Corp., Chicago, Ill.
Brown Trailer Div., Clark Equipment Co., Elgin, Ill.
Fruehauf Trailer Co., Detroit, Mich.
International Harvester Co., Chicago, Ill.
Mack Trucks, Inc., Plainfield, N. J.
Highway Trailer Co., New York, N. Y.
Trailmobile, Inc., Cincinnati 9, Ohio
White Motor Co., Cleveland, Ohio

TRUCK WHEEL BLOCKS

Calumet Steel Castings Corp., Hammond, Ind.

AUGUST, 1961



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V-W

VAPOR PHASE INHIBITING PAPERS

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Ludlow Papers, Inc., Needham, Mass.
Orchard Paper Co., St. Louis, Mo.
Thilmany Pulp & Paper Co., Kaukauna, Wis.

WAREHOUSES

Jackson Warehouses, New Orleans, Louisiana
Werner-Kennelly Co., Chicago, Ill.

WIRE, BOX

Acme Staple Co., Camden, N. J.
Acme Steel Co., Chicago, Ill.
American Steel & Wire Co., Chicago, Ill.
Mid-States Steel & Wire Co., Crawfordsville, Ind.
Riverside Alloy Metal Div., H. K. Porter Co., Inc., Holyoke, Mass.

WIRE, CUTTERS

Riverside-Alloy Metal Div., H. K. Porter, Inc., Holyoke, Mass.

WIRE TYING MACHINERY (ROUND WIRE)

Inland Wire Products Co., Chicago, Ill.
Mid-States Steel & Wire Co., Crawfordsville, Ind.

WRAP, VAPOR BARRIER

American Sisalkraft Co., Attleboro, Mass.
Central Paper Co., Menasha, Wis.
Gilman Paper Co., New York City, N. Y.
Ludlow Papers, Inc., Needham, Mass.
Mid-States Gummed Paper Co., Chicago, Ill.
Orchard Paper Co., St. Louis, Mo.
Rexford Paper Co., Milwaukee, Wis.
Thilmany Pulp & Paper Co., Kaukauna, Wis.

40

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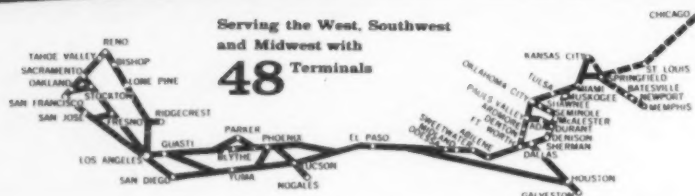
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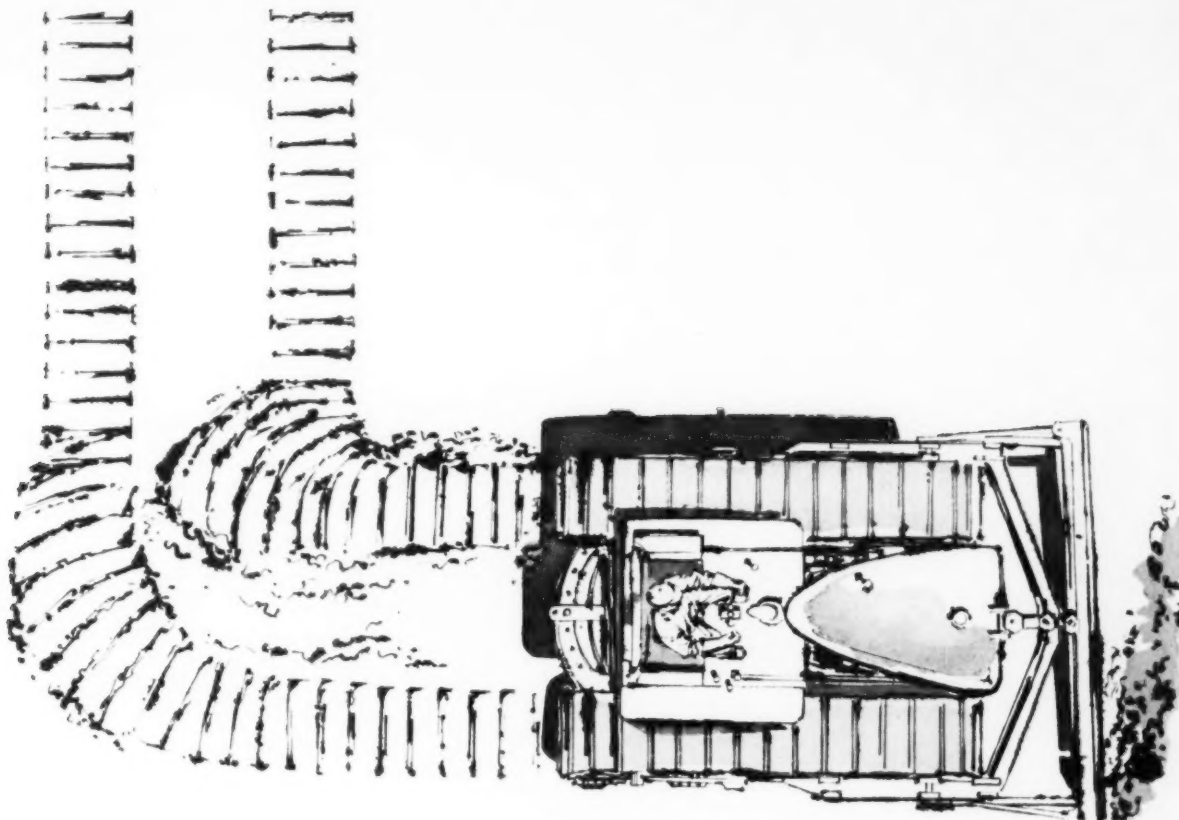


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CLEVELAND—Terminal Tower Building, Cleveland 13, Ohio
PITTSBURGH—3 Gateway Center, Pittsburgh 22, Pennsylvania
CONTINENTAL EUROPE—Talstrasse 66, Zurich 1, Switzerland
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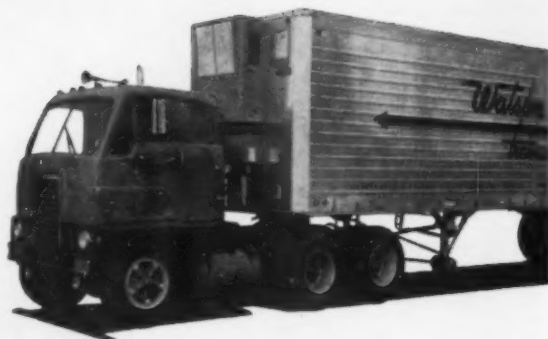
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